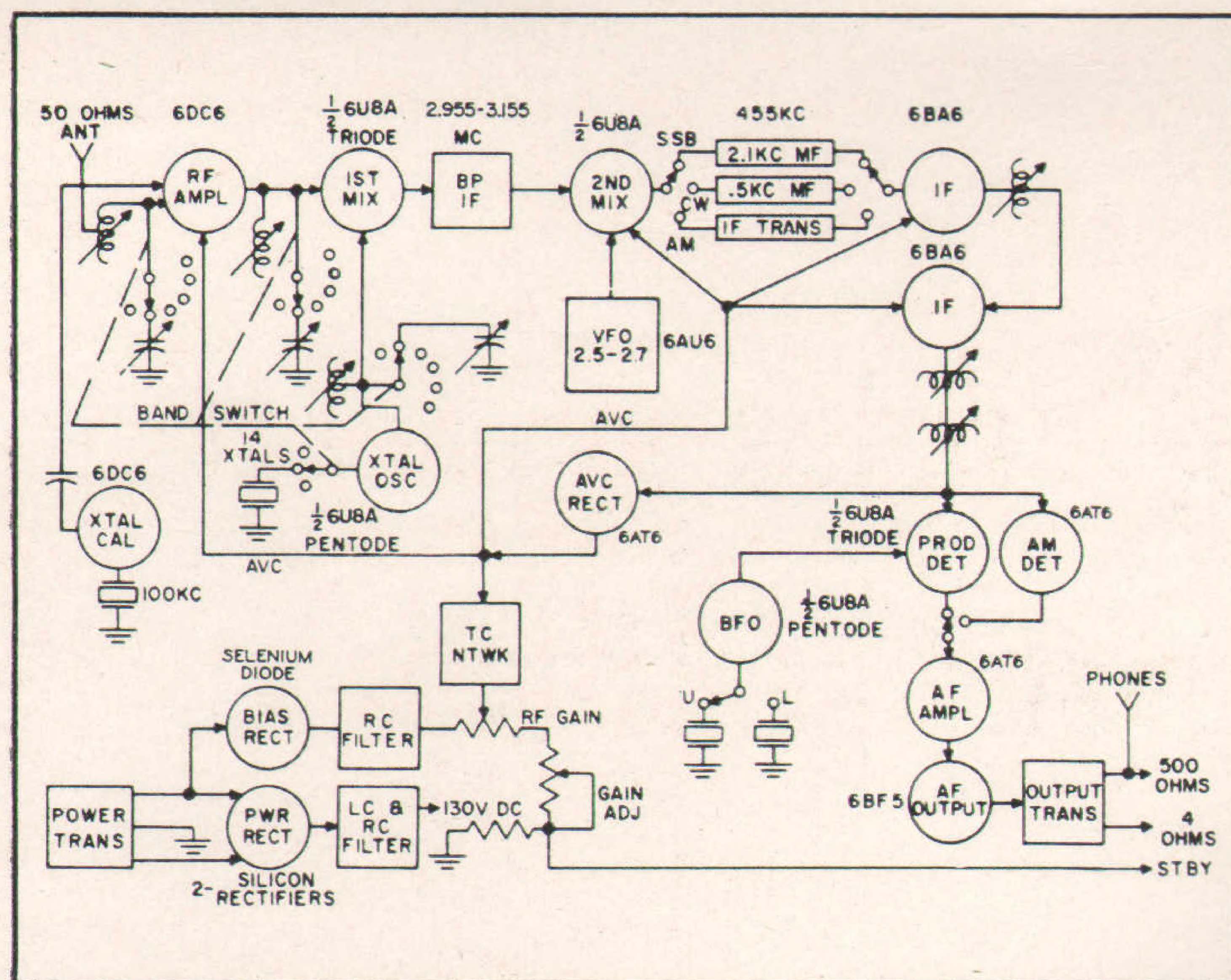


Radio **AMATEUR** Call Book Magazine

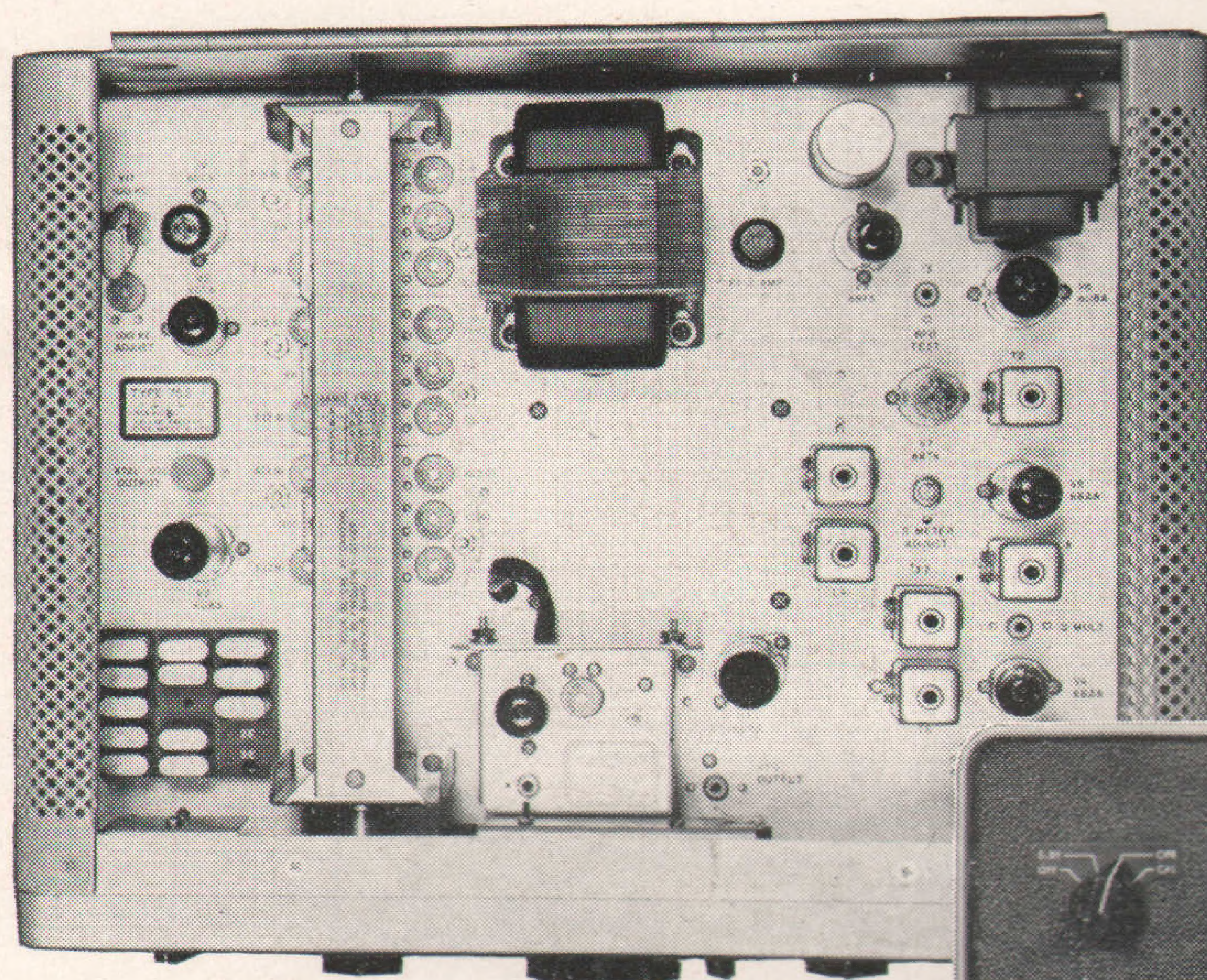
\$5⁰⁰
Foreign
\$5²⁵



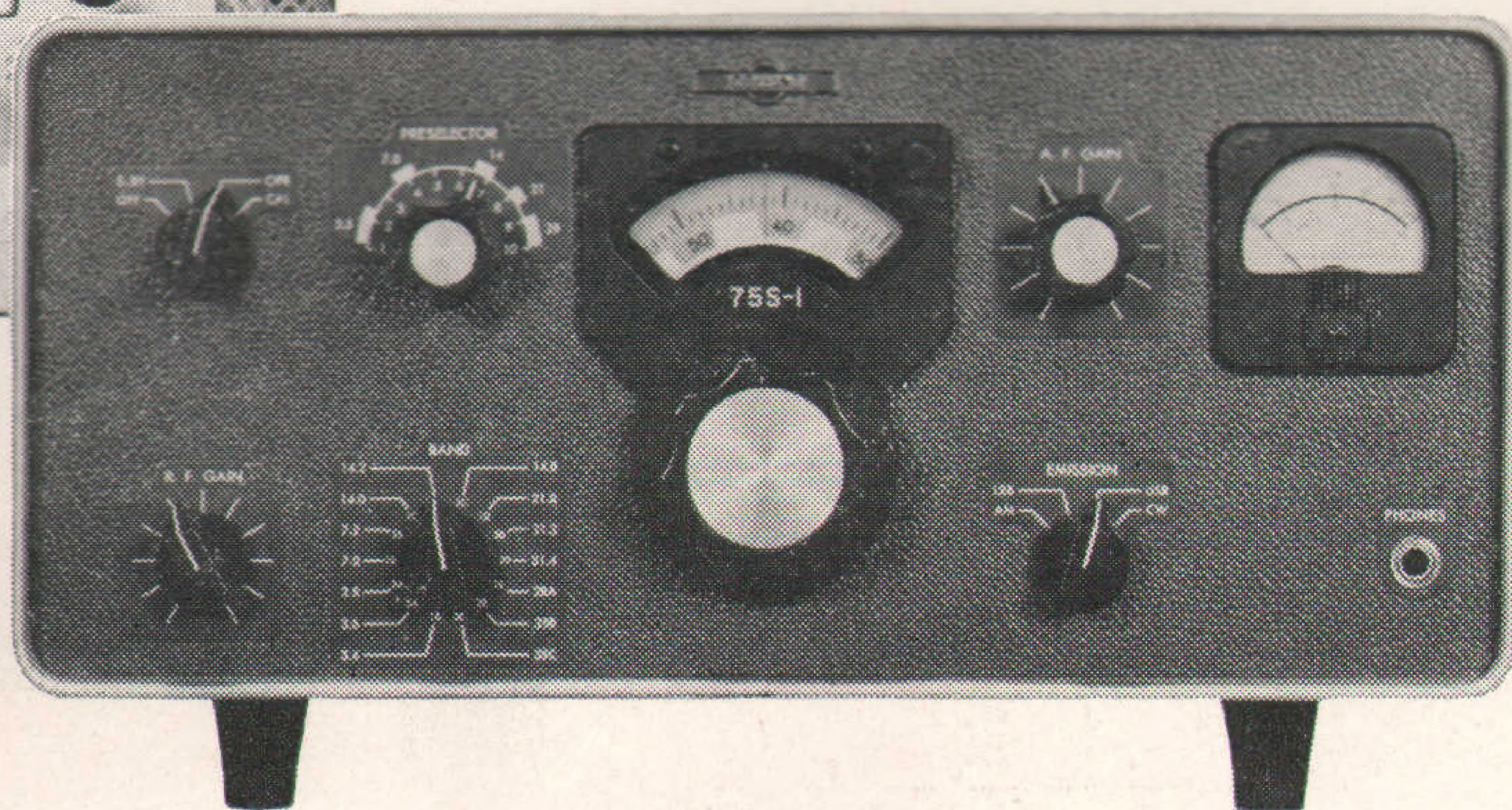
SPRING 1959



Circuits include new design low noise mixers for improved S/N ratio, HF crystal oscillator and low frequency VFO for maximum frequency stability, and Mechanical Filters for optimum selectivity.



Major components are arranged in an orderly manner with attention given to heat dissipation, a major requirement for high reliability. Note the pleasing appearance and simplified front panel arrangement.



Collins

75S-1

Receiver

Surpassing in performance . . Simplified in Operation

New criteria of performance, compactness and operational simplicity have been achieved in the new Collins S/Line Receiver — the 75S-1. The highly accurate linear dial, coupled with extremely stable circuits, provides maximum ease in tuning in the frequency you want for keeping a sked or checking into a net. A bonus feature of the S/Line enables the 75S-1 to control the frequency of its companion 32S-1 Transmitter, putting the transmitter right on the received signal frequency without zero beating.

Other now highlights of the 75S-1 design include AVC with a very flat char-

acteristic for optimum SSB performance; 150 volts on vacuum tube plates for reduced heat dissipation and increased reliability; silicon power rectifiers; control of three degrees of selectivity — 2.1 or optional 0.5 kc with Mechanical Filters, or 4.0 kc conventional IF transformers for AM.

Time-proven features of its Collins predecessors incorporated in the new receiver include dual conversion with a crystal controlled first injection oscillator; bandpass first IF; RF amplifier with low cross modulation products; stable, permeability-tuned VFO, a product detector

for SSB, and a diode detector for AM.

The 75S-1 offers reception of SSB, CW or AM signals on all amateur bands between 3.5 and 29.7 mc, with coverage of any frequency in the 3.5 to 30 mc range, except 5.0 to 6.5 mc, possible by substituting crystals.

See the 75S-1 and other units of the S/Line — 32S-1 Transmitter, 30S-1 1 kw (Average Plate Input) Linear Amplifier and accessories — on display by your Collins distributor.



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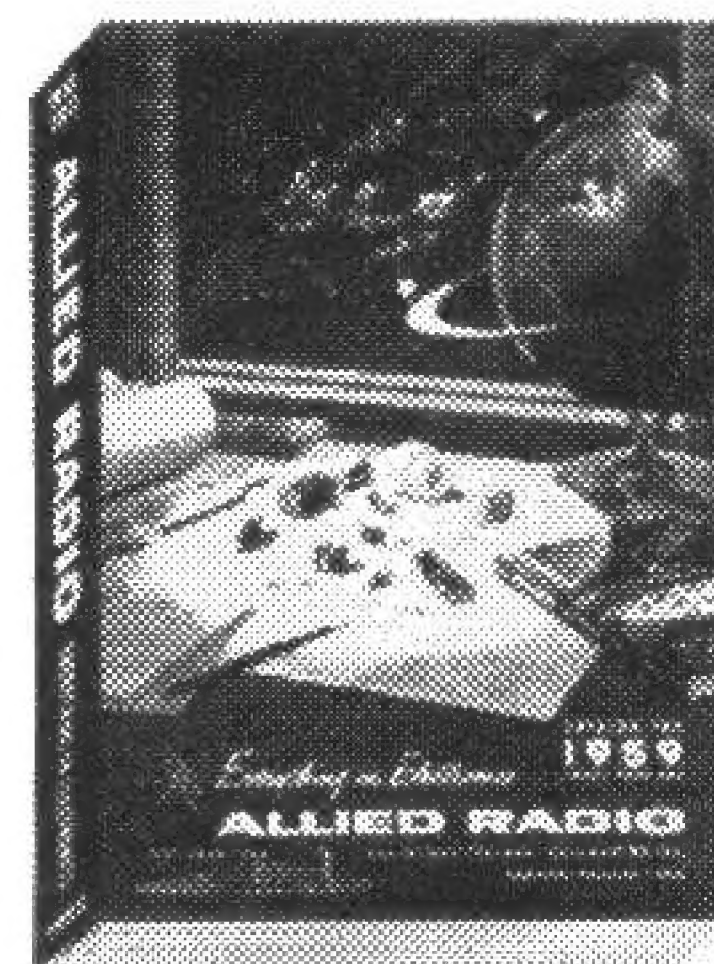
BONUS PACKAGE PLAN: You'll save money with Allied's famous Bonus Package Plan—order two or more pieces of equipment at the same time and you get a big extra savings. Write for our latest Catalog Supplement No. 183, featuring sensational SSB and Receiver Bonus Packages.

WE HAVE EVERYTHING: Select your new equipment from our complete stocks of all the famous lines. We'll give you the highest trade on your old equipment and make immediate shipment from stock on the new gear you select.

EASIEST TERMS, TOO: Only 10% down, or your trade-in as down payment—minimum order only \$20. Fast handling, no red tape—you'll like our easy-pay plan.

free:

The Allied 452-Page 1959 Catalog is packed with the largest selections of station gear—it's your complete buying guide to everything in Electronics. If you haven't a copy, write for it today.

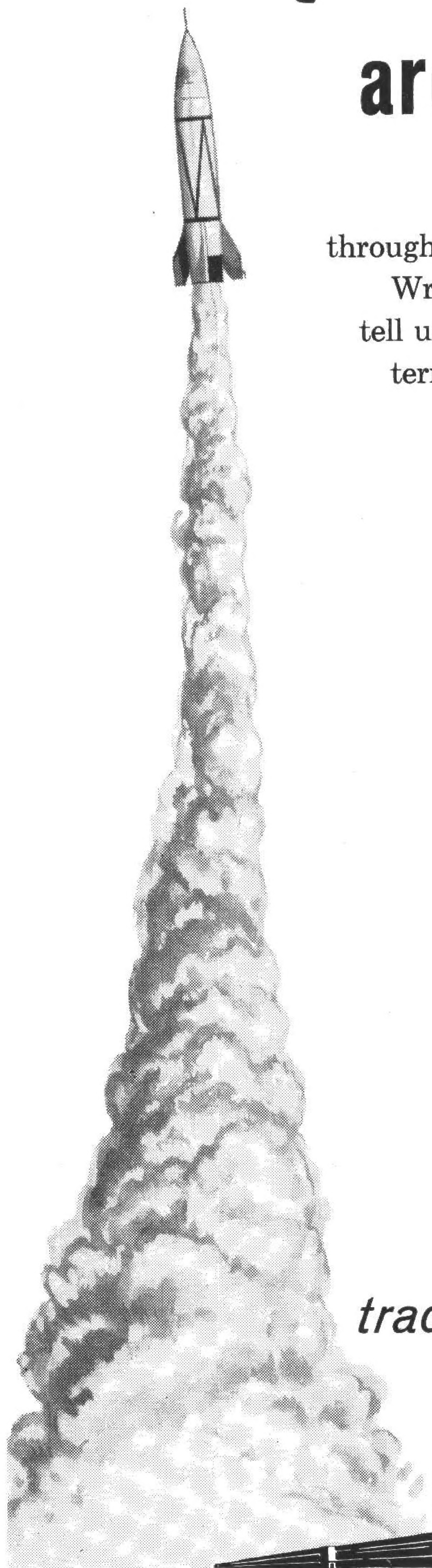
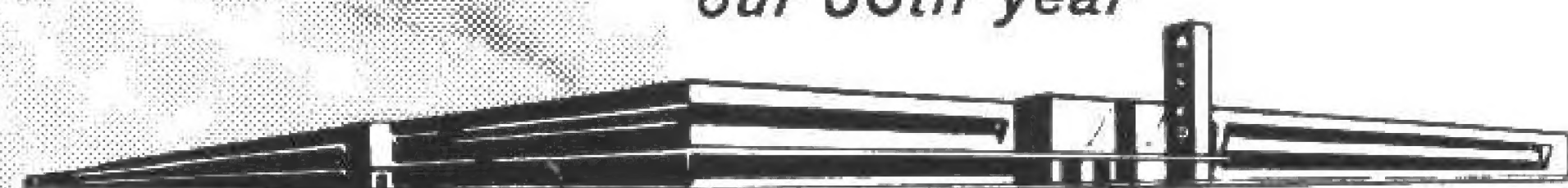


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Chicago 80, Ill.

our 38th year



RADIO AMATEUR CALL BOOK

MAGAZINE

known the world over as: the "CALLBOOK"

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VOLUME 37 NUMBER 1

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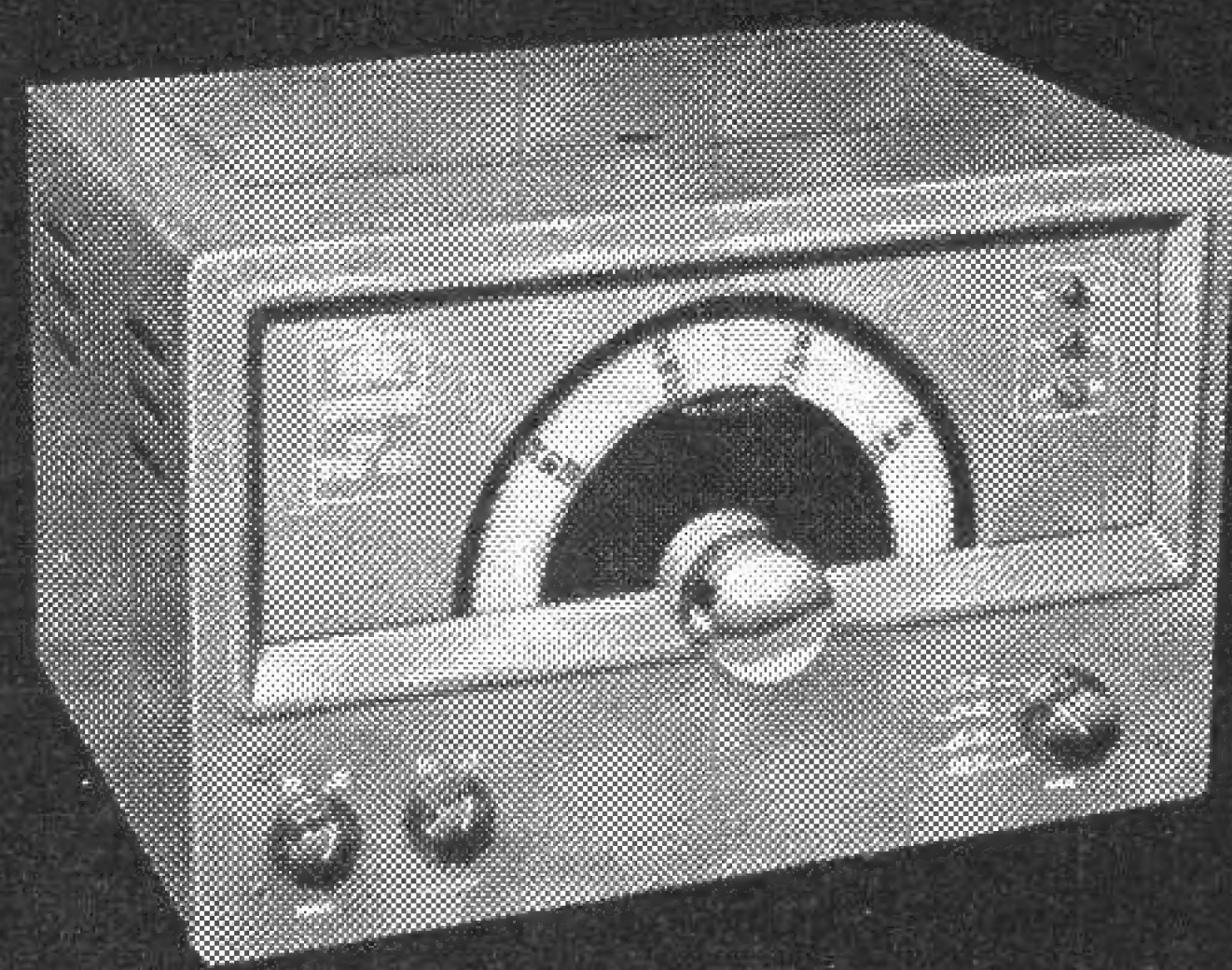
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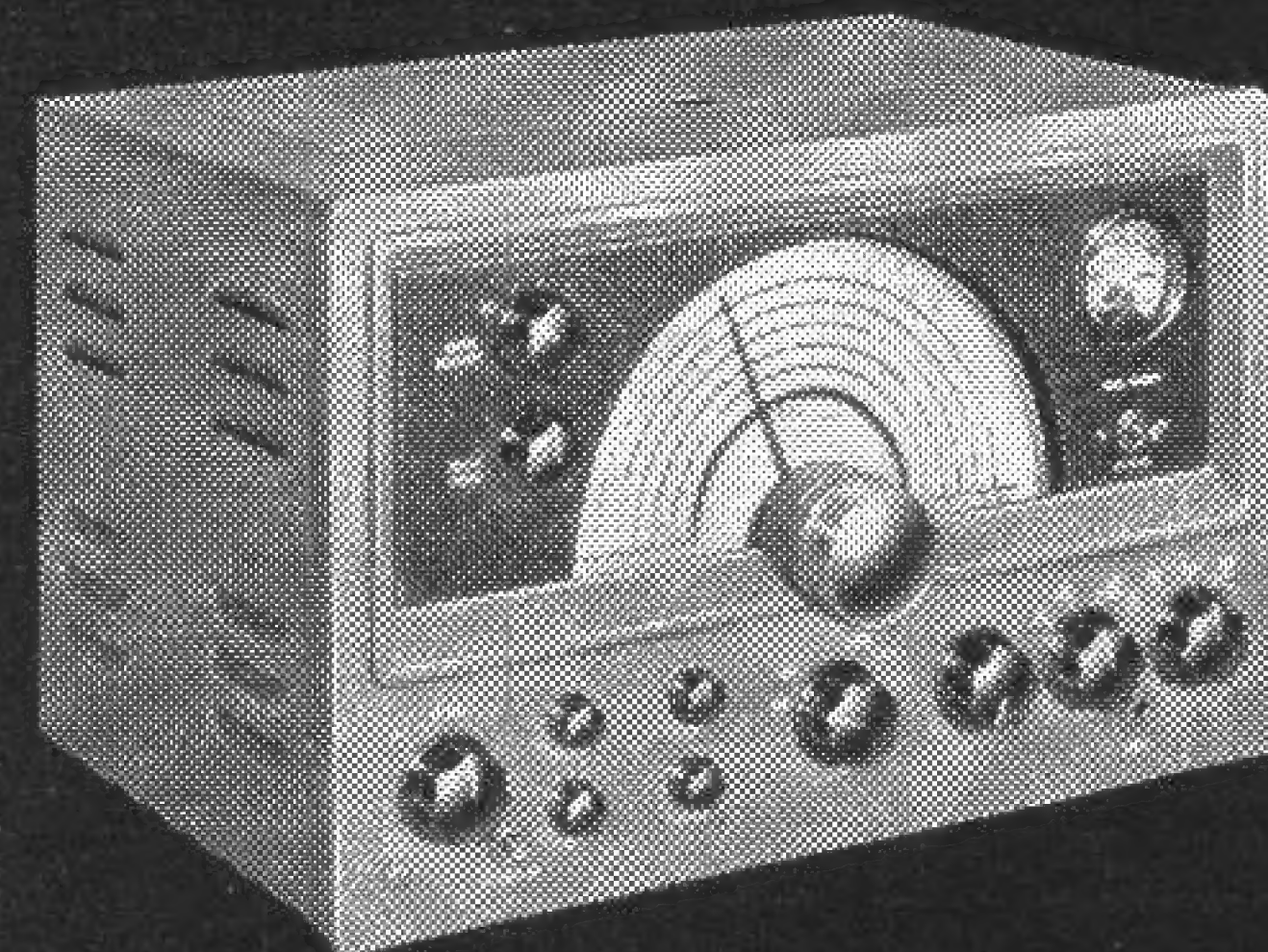
THE ONLY TUNABLE VHF CONVERTER, MODEL VHF 126

VHF pioneers designed and built this versatile VHF Converter. It will extend the range of any communications receiver through the 6, 2 and 1 1/4 meter bands. All bands are tuned with equal ease since the 50mc tuner does the tuning for the higher bands in the same way it tunes the 50mc band. Sensitivity 1/2 microvolt with very low noise figure. Built-in power supply. Simple to install and requires no circuit modification to select either VHF or standard communication ranges. Designed and manufactured to the requirements of costly astronomy receivers.

Experience the finest VHF reception, ever!... **\$239.00** Amateur Net.

HERE'S WHY RME LABORATORY ENGINEERED EQUIPMENT IS UNMATCHED

Regardless of price, RME equipment is engineered specifically to balance performance against cost. Each RME product, each RME accessory has this cornerstone for its design.

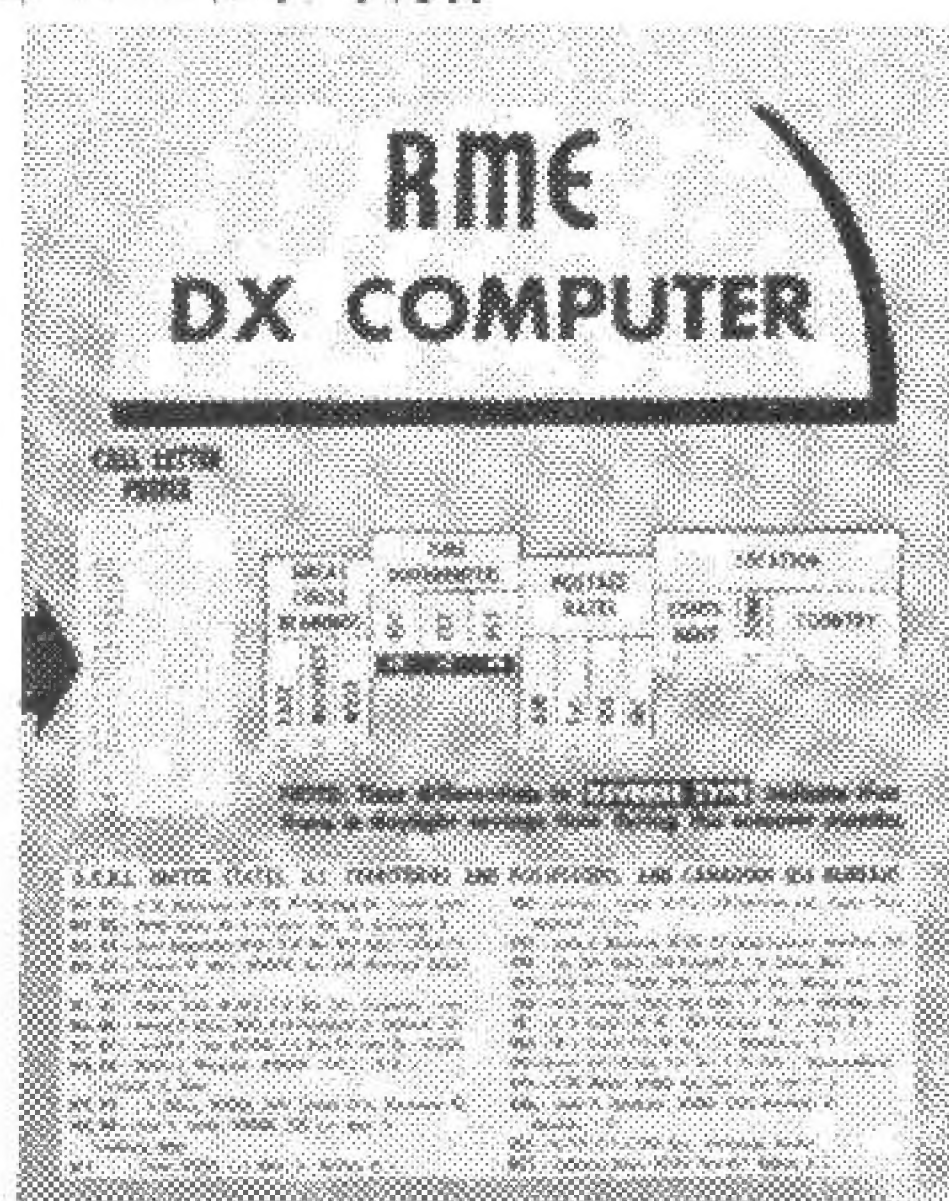


CHECK ANY RECEIVER, THEN CHECK THE RME 4350A.

It has everything you want and need. Study and compare these features usually found in only high-priced receivers. Efficiency concentrated for ham bands only. IF curve is 2.8 kc wide without crystal, down to 100 cycles with crystal. Sensitivity one microvolt with low noise figure. Dual conversion for image rejection of at least 54 DB. Six-pound cast panel with heavy gauge steel chassis and cabinet gives maximum stability. 100 kc crystal calibrator. Single dual speed dial for easy tuning. Engineered for maximum performance on SSB, CW and Phone. Ideal for contests and DX under all receiving conditions. FCDA Item R-16. **\$249.00**. Amateur Net. Model 4302 Matching Speaker **\$17.50** Amateur Net.

DX COMPUTER...

an operating aid designed to make available DX information about all countries recognized officially by the amateur societies of the world. This unusual computer is a complete DX guide to the ham operator in a handy, compact form. It gives all call letter prefixes; time differentials; international postage rates; continent, zone, and country; in addition to an address listing of all the QSL Bureaus of the World. By sliding the center plate to the desired prefix, you can read all the above mentioned guides at one setting. The call letter prefix column has extra spaces to fill in your own QSL record, sent and received. Size: 13 1/4" x 4 3/4" **\$1.00** Amateur Net.



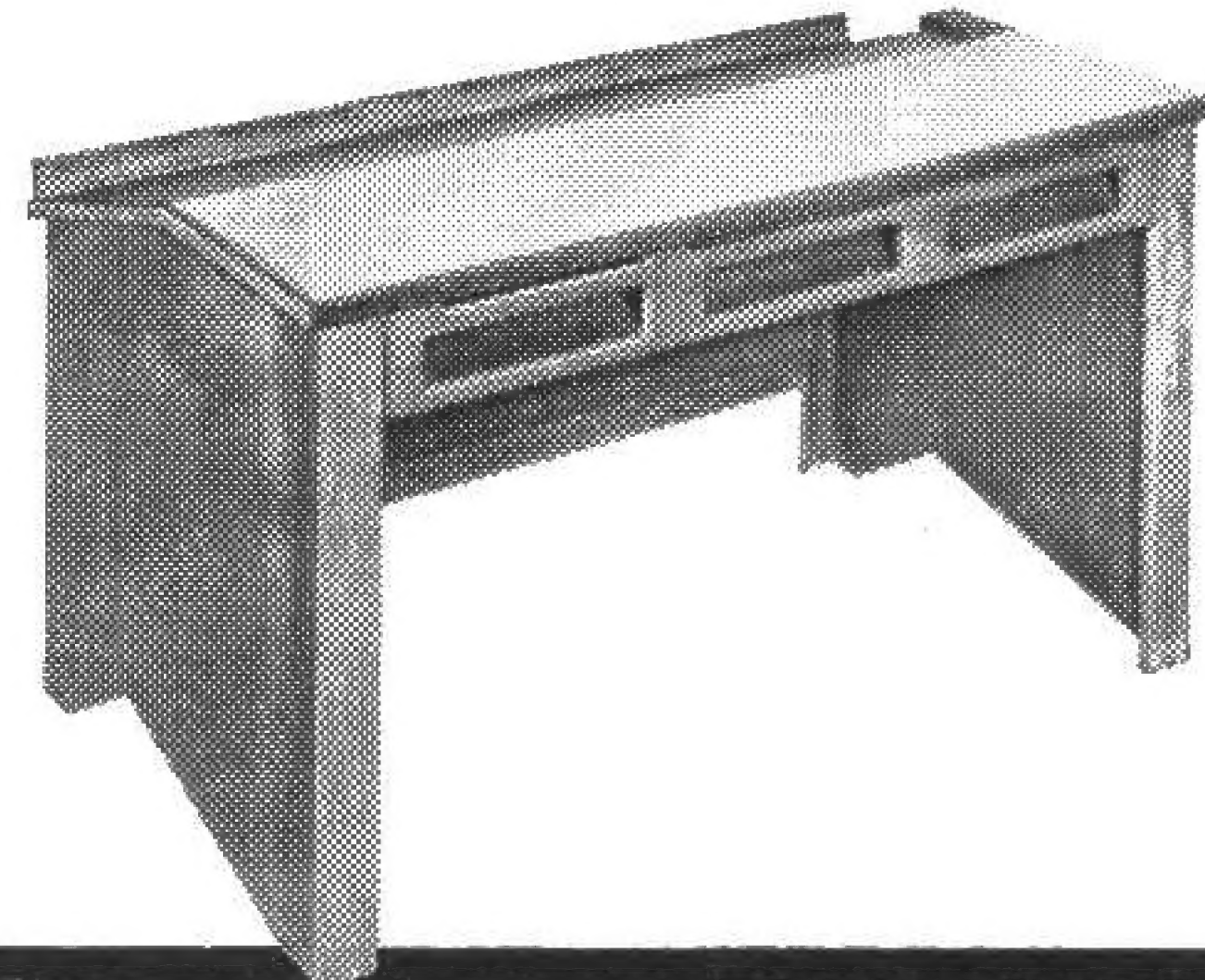
RME DB23 PRESELECTOR...

improves the performance of any receiver. Three 6J6 twin triodes are used as neutralized push-pull stages in a unique combination of selective and wide band RF amplifiers. You get a minimum gain of 20 db throughout all ham bands from 3.5 to 30 mc, and signal-to-noise improvement can be as much as 7.5 db over that of the receiver alone. Input circuits are accurately matched to any standard type antenna. Operation is simple; merely set band selector and adjust peaking control for maximum signal... **\$49.50** Amateur Net.

KD 88 OPERATING TABLE

Now, get a convenient operating position that will complement any decor. Ample space holds the exciter, receiver, side-band slicer and key; special tilt makes dial and meter readings easy. Hard masonite top provides excellent writing surface with elbow room for comfortable operating. Log, call book, and other records in handy shelf. Hide-away table leaf can be inserted to operator's left for extra writings or typing space.

The KD 88 comes completely knocked down. Constructed of rugged gumwood, ready to be custom finished with your choice of six E-V finishing kits. Exposed edges are covered with handsome grained wood. With easy step-by-step instructions, you need only a hammer and screwdriver. Terrific value... just **\$57.50** Amateur Net.



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A. R. R. L. COUNTRIES LIST

Official List for ARRL DX CONTEST and Postwar DXCC

The ARRL Postwar Countries List is the official standard used in connection with the ARRL DX competition and the DX Century Club. To qualify for the DX Century Club Award, an applicant must submit confirmations from at least 100 different countries contacted after November 15, 1945, in accordance with the Postwar DXCC Rules. Copies of the DXCC Rules will be furnished by ARRL on request.

AC3	Sikkim	KG1	(See OX)	VP2	St Vincent & Dependencies
AC4	Tibet	KG4	Guantanamo Bay	VP3	British Guiana
AC5	Bhutan	KG6	Mariana Islands	VP4	Trinidad & Tobago
AP	Pakistan	KG61	(See KAφ)	VP5	Cayman Islands
BV	Formosa	KH6	Hawaiian Islands	VP5	Jamaica
C (unofficial)	China	KJ6	Johnston Island	VP5	Jamaica (including Caymans)
C3	Formosa	KL7	Alaska	VP5	Turks & Caicos Islands
C9	Manchuria	KM6	Midway Islands	VP6	Barbados
CE	Chile	KP4	Puerto Rico	VP7	Bahama Islands
CE9, KC4, LU-Z, VK0, VP8, ZL5	Antartica	KP6	Palmyra Group, Jarvis Island	VP8	Falkland Islands
CEφ	Easter Island	KR6	Ryukyu Islands (e.g., Okinawa)	VP8, LU-Z	South Georgia
CM, CO	Cuba	KS4	Swan Island	VP8, LU-Z	South Orkney Islands
CN2	Tangier Zone	KS6	American Samoa	VP8, LU-Z	South Sandwich Islands
CN8	French Morocco	KV4	Virgin Islands	VP8, LU-Z, CE9	South Shetland Islands
CP	Bolivia	KW6	Wake Island	VP9	Bermuda Islands
CR4	Cape Verde Islands	KX6	Marshall Islands	VQ1	Zanzibar
CR5	Portuguese Guinea	KZ5	Canal Zone	VQ2	Northern Rhodesia
CR5	Principe, Sao Thome	LA	Jan Mayen	VQ3	Tanganyika Territory
CR6	Angola	LA	Norway	VQ4	Kenya
CR7	Mozambique	LA	Svalbard	VQ5	Uganda
CR8	Goa (Portuguese India)	LU	Argentina	VQ6	British Somaliland
CR9	Macao	LU-Z	(See CE9)	VQ8	Chagos Islands
CR10	Portuguese Timor	LX	Luxembourg	VQ8	Mauritius
CT1	Portugal	LZ	Bulgaria	VQ8	Rodriguez Island
CT2	Azores	M1	San Marino	VQ9	Seychelles
CT3	Madeira Islands	MP4	Bahrein Island	VR1	British Phoenix Islands
CX	Uruguay	MP4	Qatar	VR1	Gilbert & Ellice Islands & Ocean Island
DJ, DL, DM	Germany	MP4	Trucial Oman	VR2	Fiji Islands
DU	Philippine Islands	MS4	(See I5)	VR3	Fanning Island (Christmas Island)
EA	Spain	OA	Peru	VR4	Solomon Islands
EA6	Balearic Islands	OD5	Lebanon	VR5	Tonga (Friendly) Islands
EA8	Canary Islands	OE	Austria	VR6	Pitcairn Island
EA9	Ifni	OH	Finland	VS1	Singapore
EA9	Rio de Oro	OHφ	Aland Islands	VS2	Malaya
EA9	Spanish Morocco	OK	Czechoslovakia	VS4	Sarawak
EAφ	Spanish Guinea	ON4	Belgium	VS5	Brunei
EI	Republic of Ireland	OQ5, φ	Belgian Congo	VS6	Hong Kong
EL	Liberia	OX, KG1	Greenland	VS9	Aden & Socotra
EQ	Iran	OY	Faeroes	VS9	Maldiv Islands
ET2	Eritrea	OZ	Denmark	VS9	Sultanate of Oman
ET3	Ethiopia	PAφ, P11	Netherlands	VU2	India
F	France	PJ2	Netherlands West Indies	VU4	Laccadive Islands
FA	Algeria	PJ2M	Sint Maarten	VU5	Andaman and Nicobar Islands
FB8	Amsterdam & St. Paul Islands	PK1, 2, 3	Java	W, K	United States of America
FB8	Comoro Islands	PK4	Sumatra	XE, XF	Mexico
FB8	Kerguelen Islands	PK5	Netherlands, Borneo	XE4	Revilla Gidedo
FB8	Madagascar	PK6	Celebes & Molucca Islands	XV5	(see 3w8)
FB8	Tromelin Island	PX	Andorra	XW8	Laos
FC (Unofficial)	Corisca	PY	Brazil	XZ2	Burma
FD	Togo	PY0	Fernando de Naronha	YA	Afghanistan
FE8	French Cameroons	PY0	Trindade	YI	Iraq
FF8	French West Africa	PZ1	Netherlands Guiana	YJ	(See FU8)
FG7	Guadeloupe	SL, SM	Sweden	YK	Syria
FI8	French Indo-China	SP	Poland	YN, YNφ	Nicaragua
FK8	New Caledonia	ST2	Sudan	YO	Roumania
FL8	French Somaliland	SU	Egypt	YS	Salvador
FM7	Martinique	SV	Crete	YU	Yugoslavia
FN	French India	SV	Greece	YV	Venezuela
FO8	Clipperton Island	SV5	Dodecanese (e.g., Rhodes)	YV0	Aves Island
FO8	French Oceania (e.g., Tahiti)	TA	Turkey	ZA	Albania
FP8	St. Pierre & Miquelon Islands	TF	Iceland	ZB1	Malta
FO8	French Equatorial Africa	TG	Guatemala	ZB2	Gibraltar
FR7	Reunion Island	TI	Costa Rica	ZC3	Christmas Island
FS7	Saint Martin	TI9	Cocos Island	ZC4	Cyprus
FU8, YJ	New Hebrides	UA1, 3, 4, 6	European Russian	ZC5	British North Borneo
FW8	Wallis & Futuna Islands	UA1	Socialist Federated Soviet Republic	ZC6	Palestine
FY7	French Guiana & Inini	UA0	Franz Josephland	ZD1	Sierra Leone
G	England	UA9, φ	Wrangel Island	ZD2	Nigeria
GC	Channel Islands	UB5	Asiatic Russian S.F.S.R.	ZD3	Gambia
GD	Isle of Man	UC2	Ukraine	ZD4	(See 9G1)
GI	Northern Ireland	UD6	White Russian Soviet Socialist Republic	ZD4	Gold Coast, Togoland
GM	Scotland	UF6	Azerbaijan	ZD6	Nyasaland
GW	Wales	UG6	Georgia	ZD7	St. Helena
HA	Hungary	UH8	Armenia	ZD8	Ascension Island
HB	Switzerland	UH8	Turkoman	ZD9	Tristan da Cunha & Gough Island
HC	Ecuador	UI8	Uzbek	ZE	Southern Rhodesia
HC8	Galapagos Islands	UJ8	Tadzhik	ZK1	Cook Islands
HE	Liechtenstein	UL7	Kazakh	ZK2	Niue
HH	Haiti	UM8	Kirghiz	ZL	Chatham Islands
HI	Dominican Republic	UN1	Karelo-Finnish Republic	ZL	New Zealand
HK	Colombia	UO5	Moldavia	ZL1	Kerdandec Islands
HK0	Archipelago of San Andres	UP2	Lithuania	ZL5	(see CE9)
HL	Korea	UQ2	Latvia	ZM6	British Samoa
HP	Panama	UR2	Estonia	ZM7	Tokelau (Union Islands)
HR	Honduras	VE, VO	Canada	ZP	Paraguay
HS	Thailand	VK	Australia (including Tasmania)	ZS1, 2, 4, 5, 6	Union of South Africa
HV	Vatican City	VK	Lord Howe Island	ZS2	Prince Edward & Marion Islands
HZ	Saudi Arabia (Hedjaz & Nejd)	VK9	Cocos Islands	ZS3	Southwest Africa
II, IT1	Italy	VK9	Nauru Island	ZS7	Swaziland
II	Trieste	VK9	Norfolk Island	ZS8	Basutoland
I5	Italian Somaliland	VK9	Papua Territory	ZS9	Bechuanaland
IS1	Sardinia	VK9	Territory of New Guinea	3A	Monaco
JA, KA	Japan	VKφ	Heard Island	3V8	Tunisia
JT1	Mongolia	VK0	Macquarie Island	3W8, XV5	Vietnam
JY	Jordan	VO	(See VE)	4S7	Ceylon
JZ0	Netherlands New Guinea	VP1	British Honduras	4W1	Yemen
K, W	United States of America	VP2	Anguilla	4X4	Israel
KA	(See JA)	VP2	Antigua, Barbuda	5A	Libya
KA0, KG61	Bonin & Volcano Islands	VP2	British Virgin Islands	9G1, ZD4	Ghana
KB6	Baker, Howland & American Phoenix Islands	VP2	Dominica	9K2	Kuwait
KC4	Navassa Island	VP2	Grenada & Dependencies		Aldabra Islands
KC6	Eastern Caroline Islands	VP2	Montserrat		Cambodia
KC6	Western Caroline Islands	VP2	St Kitts, Nevis		Nepal
		VP2	St Lucia		



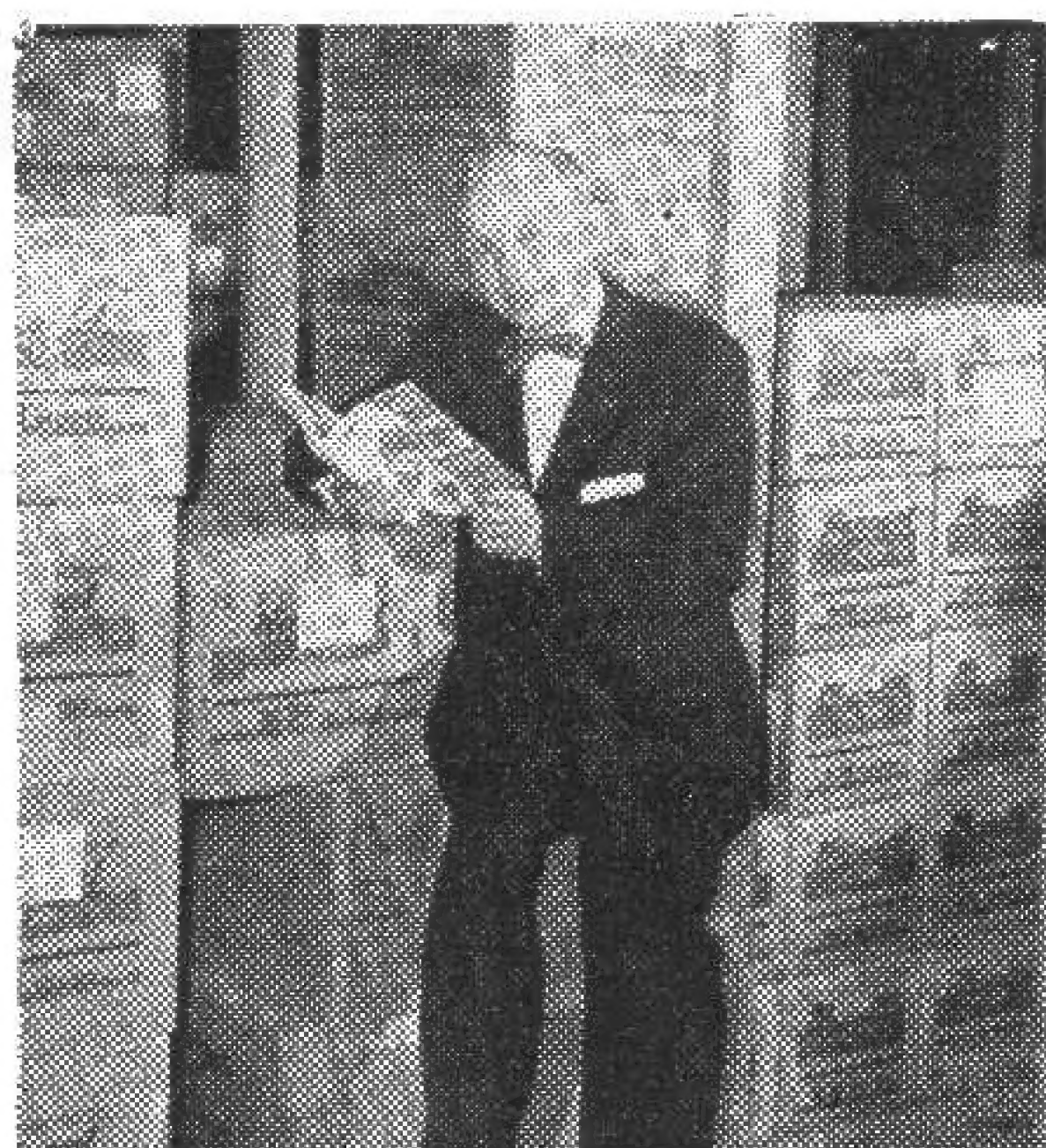
You'll be wise, too, to join these hams in buying from "the house the hams built". Twenty-five hams are here to serve you, to give you the most personalized service possible when you write, call, wire or stop in at "the world's largest distributor of amateur radio equipment."



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Sizable stocks of ham equipment from the nation's leading manufacturers are kept on hand at all times. Yet our turnover is so tremendous we can guarantee you late serial numbers whenever you order. Above are just a few shots of portions of our stock rooms.

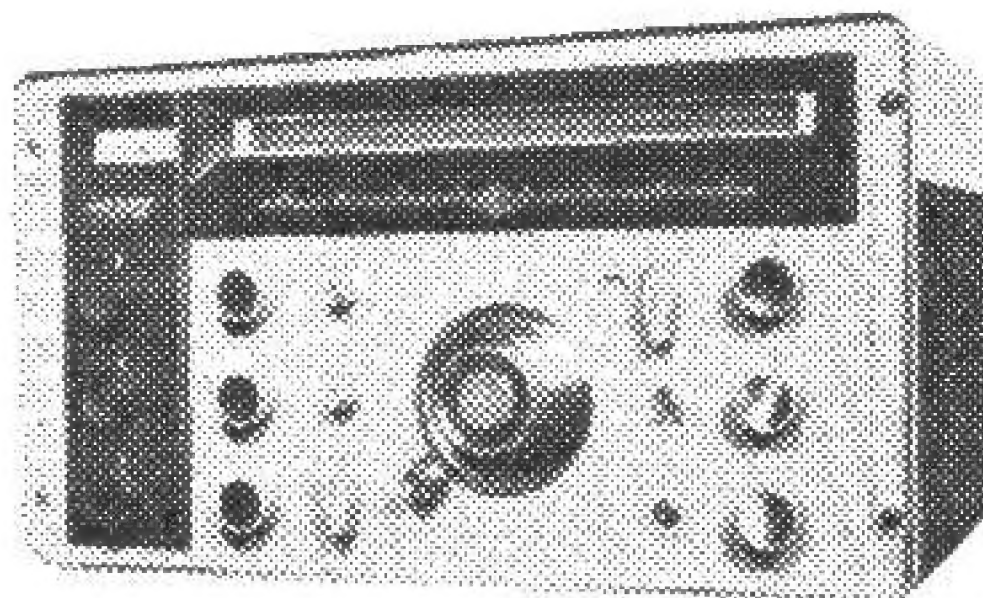
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10%
DOWN

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HERE ARE JUST A FEW TOP NOTCH ITEMS

National's great new NC-303



Front panel selector for instant sideband choice. Retuning or detuning eliminated. "Q" Multiplier. 5-position IF selector (.5kc, SSB-1, SSB-2, 4kc, 8kc). Separate ANL for AM, manually adjusted limiter for CW, DSB and SSB. WWV converter position. Hi-speed 40-1 ratio tuning dial. Fine tuning vernier on CW, SSB and DSB. Antenna Trimmer. 15 tubes. Sensitivity: 1.5mv. Image rejection: 50-80db.

\$449.00 Net or \$44.90 Down, \$25.50 per mo.

Hallicrafters new "2 and 6" SR-34 transceiver



For either AM or CW with instantaneous voltage selection & crossbanding between 2 & 6M bands. Crystal-controlled Xmtr.; up to 4 Xtals. may be switch-selected. 5th position for external VFO operation. Front panel band selection. Double conversion superhet receiver, with quartz Xtal. controlled second oscillator. Separate oscillator and RF sections each band for highest stability. S-meter, ANL, BFO, etc. 100% modulated negative peak clipping. Transistorized built-in power supply for mobile or portable application.

\$495.00 Net or \$49.50 Down, \$28.00 per mo.

Hammarlund's remarkable HQ-170

Triple Conversion
SSB Receiver

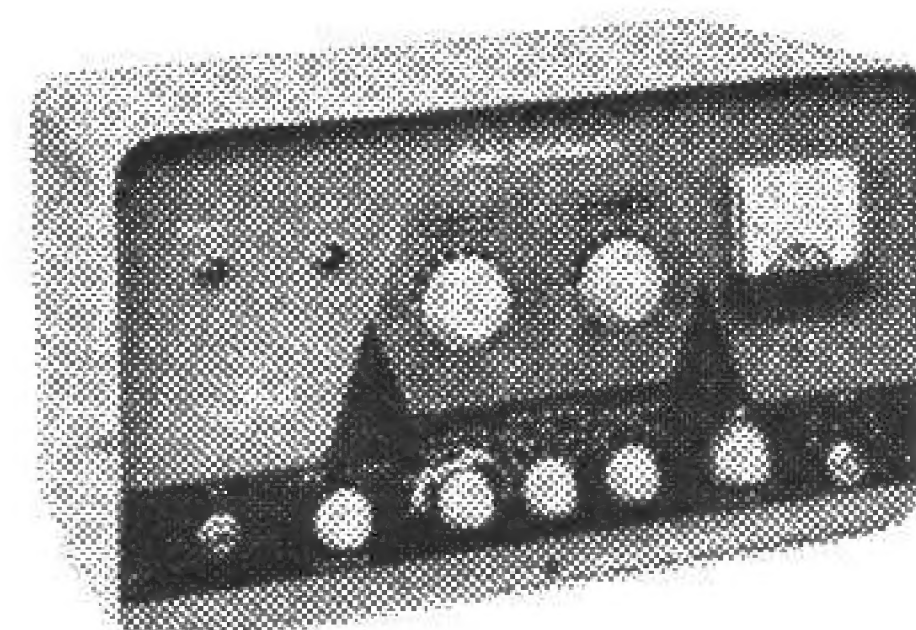


Best features of the finest SSB converters plus the best features of the finest amateur receivers wrapped up in a single outstanding receiver. Covers the 6, 10, 15, 20, 40, 80 and 160M amateur bands. Separate vernier tuning. Dual and triple conversion 17-tube superheterodyne. Adjustable 60 db notch filter. IF passband tuning. Adjustable AVC.

TELECHRON CLOCK-TIMER, \$10 extra.

\$359.00 Net or \$35.90 Down, \$20.50 per mo.

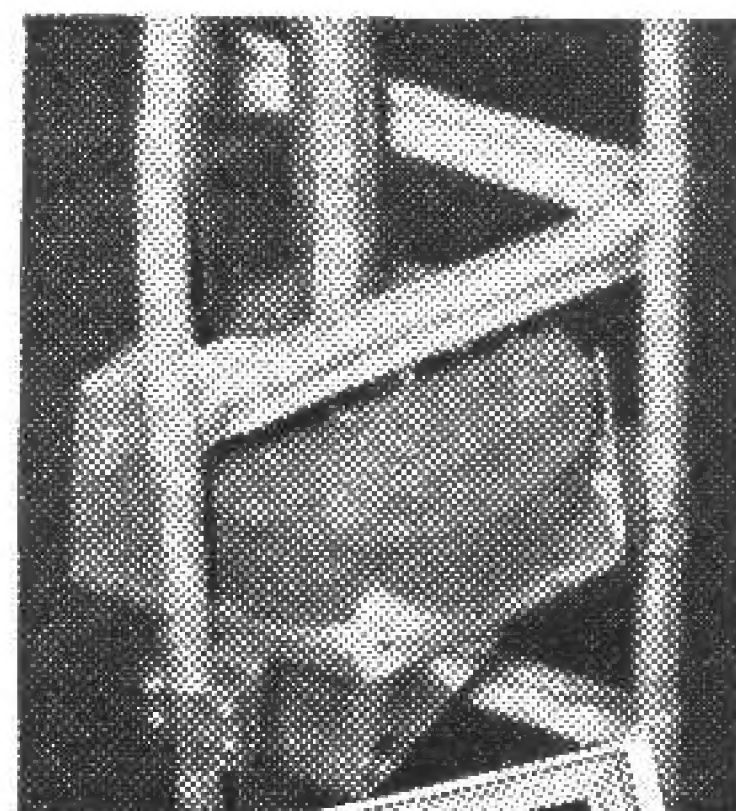
Globe's revolutionary Sidebander DSB-100



Complete Xmtr., self-contained, bandswitching 80-10M, for 100w PEP DSB, 40w AM, 50w CW. Min. 45db carrier suppression. 3-stage RF section allows straight through operation. Automatic balancing & floating grid circuit. Speech clipping & filtering for extra communication punch. Accessory socket on chassis rear apron. Use barefoot or as driver for higher power Xmtr. Covers most MARS & CAP frequencies.

\$139.95 net or \$14.00 down, \$11.55 per mo.
kit: \$119.95 net or \$12.00 down, \$ 9.90 per mo.

Hy-Gain's "tops in the Ham World" Roto-Brake



750 in. lbs. rotating power; 10,000 in. lbs. braking power in complete assembly to rotate, hold and indicate. Capacity high start torque motor. Limit switches prevent continuous rotation. 16" dia. wall map with moving wedge of light indicate beam direction.

\$179.95 net or \$18.00 down
\$14.85 per mo.



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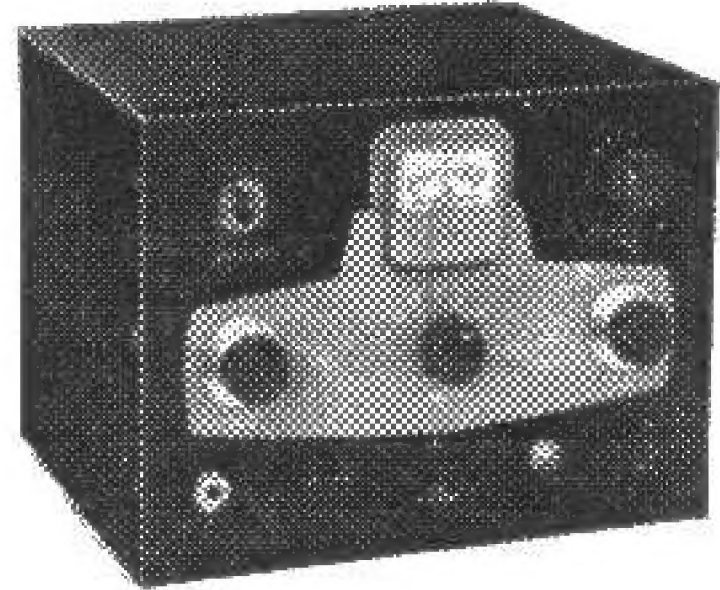
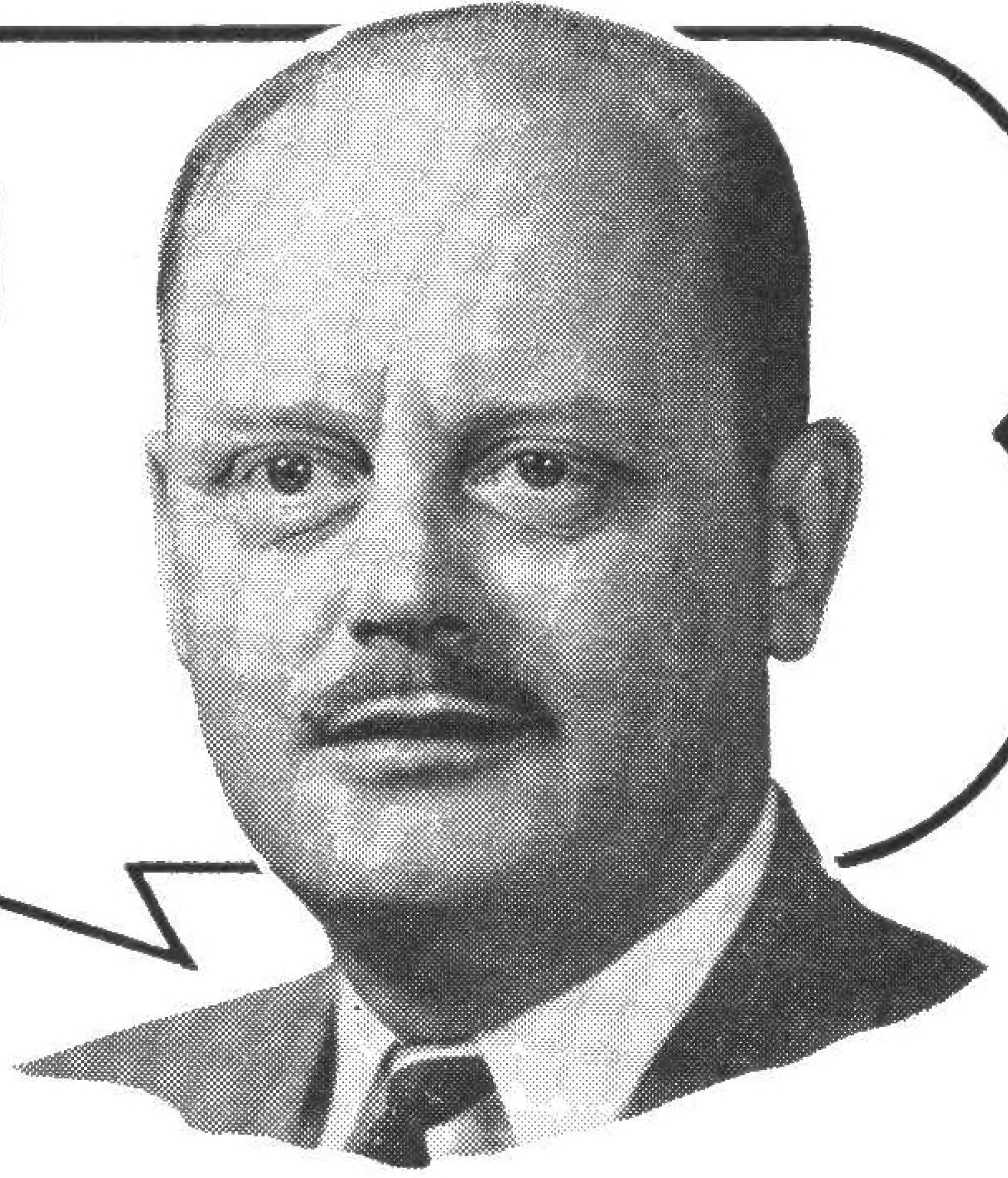
INTERNATIONAL RADIO AMATEUR PREFIXES

The following prefixes are listed in alphabetical order for convenience in locating the country when DX calls are heard.

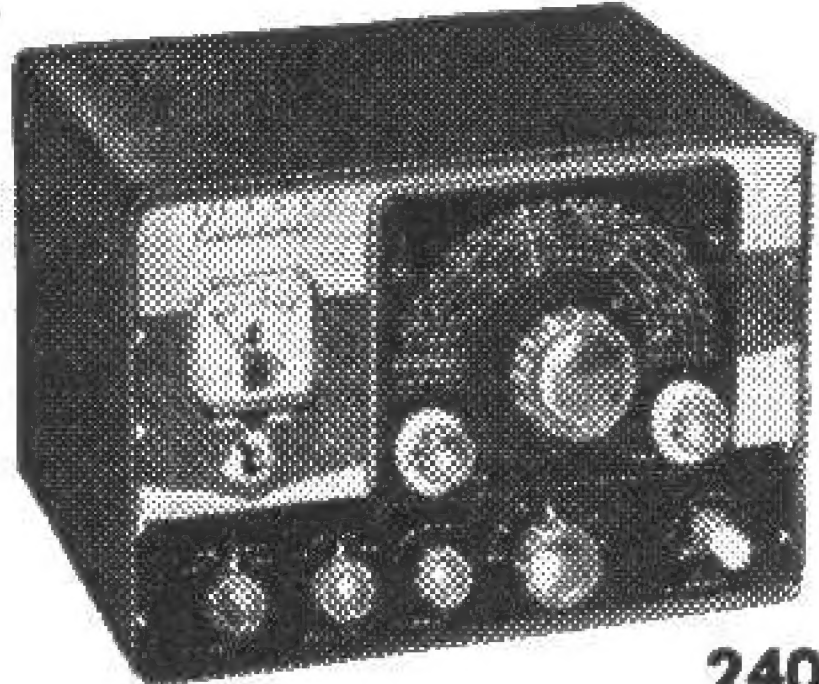
AC3	SIKKIM	KC6	CAROLINE ISLANDS	VP3	BRITISH GUIANA
AC4	TIBET	KG4	GUANTANAMO BAY, CUBA	VP4	TRINIDAD & TOBAGO IS.
AC5	BHUTAN	KG6	MARIANA ISLANDS (Guam)	VP5	JAMAICA, CAYMAN, TURKS & CAICOS IS.
AP	PAKISTAN	KG6I	IWO JIMA ISLAND	VP6	BARBADOS
BV	FORMOSA	KG6S	SAIPAN ISLAND	VP7	BAHAMA ISLANDS
C	CHINA	KG6T	TINIAN ISLAND	VP8	FALKLAND ISLANDS South Georgia, South Orkney and South Shetland Islands.
CE	CHILE	KH6	HAWAIIAN ISLANDS	VP9	BERMUDA ISLANDS
CM-CO	CUBA	KJ6	JOHNSTON ISLAND	VQ1	ZANZIBAR
CN2	TANGIER ZONE	KL7	ALASKA	VQ2	NORTHERN RHODESIA
CN8	FRENCH MOROCCO	KM6	MIDWAY ISLAND	VQ3	TANGANYIKA TERRITORY
CP	BOLIVIA	KP4	PUERTO RICO	VQ4	KENYA
CR4	CAPE VERDE ISLANDS	KP6	PALMYRA & JARVIS ISLANDS	VQ5	UGANDA
CR5	PORTUGUESE GUINEA	KR6	OKINAWA	VQ6	BRITISH SOMALILAND
CR6	ANGOLA	KS4	SWAN ISLAND	VQ8	CHAGOS & MAURITIUS ISLANDS
CR7	MOZAMBIQUE	KS6	U. S. SAMOA	VQ9	SEYCHELLES
CR8	GOA (Portuguese India)	KV4	VIRGIN ISLANDS	VR1	GILBERT ELLICE & OCEAN ISLANDS
CR9	MACAU	KW6	WAKE ISLAND	VR2	FIJI ISLANDS
CR10	TIMOR ISLAND (Port.)	KX6	MARSHALL ISLANDS	VR3	FANNING ISLAND
CT1	PORTUGAL	KZ5	CANAL ZONE	VR4	SOLOMON ISLANDS
CT2	AZORES ISLANDS	LA	NORWAY	VR5	TONGA (Friendly) ISLAND
CT3	MADERIA ISLANDS	LU	ARGENTINA	VR6	PITCAIRN ISLAND
CX	URUGUAY	LX	LUXEMBOURG	VS1	SINGAPORE
DJ, DL, DM	GERMANY	LZ	BULGARIA	VS2	MALAYAN UNION
DU	PHILIPPINE ISLANDS	M1	SAN MARINO	VS4	BRITISH NORTH BORNEO
EA	SPAIN	MF2	TRIESTE (British)	VS5	BRUNEI & SARAWAK
EA6	BALEARIC ISLANDS	MP4	BAHREIN IS. & OMAN	VS6	HONG KONG
EA8	CANARY ISLANDS	OA	PERU	VS9	ADEN & SOCOTRA ISLANDS
EA9	SPANISH MOROCCO	OD5	LEBANON	VU	INDIA
EAφ	SPANISH GUINEA	OE	AUSTRIA	VU4	LACCADIVE ISLANDS
EI	IRELAND	OH	FINLAND	VU5	ANDAMAN ISLANDS
EL	LIBERIA	OHφ	ALAND ISLANDS	W	UNITED STATES
EQ	IRAN	OK	CZECHOSLOVAKIA	XE	MEXICO
ET2	ERITREA	ON	BELGIUM	XW8	LAOS
ET3	ETHIOPIA	OQ5	BELGIAN CONGO	XZ	BURMA
F	FRANCE	OX	GREENLAND	YA	AFGHANISTAN
FA	ALGERIA	OY	FAEROES ISLANDS	YI	IRAQ
FB8	MADAGASCAR	OZ	DENMARK	YJ	NEW HEBRIDES
FC	CORSICA	PA, PI	NETHERLANDS	YK	SYRIA
FD8	FRENCH TOGOLAND	PJ	NETH. WEST INDIES	YN	NICARAGUA
FE8	FRENCH CAMEROONS	PK	NETHERLAND INDIES	YO	ROUMANIA
FF8	FRENCH WEST AFRICA	PX	ANDORRA	YS	SALVADOR
FG7	GUADELOUPE	PY	BRAZIL	YT, YU	YUGOSLAVIA
FK8	NEW CALEDONIA	PZ	SURINAM	YV	VENEZUELA
FL8	FRENCH SOMALILAND	SM	SWEDEN	ZA	ALBANIA
FM7	MARTINIQUE	SP	POLAND	ZB1	MALTA
FO8	TAHITI	ST	SUDAN	ZB2	GIBALTAR
FP8	MIQUELON & ST. PIERRE IS.	SU	EGYPT	ZC1	TRANSJORDAN
FQ8	FRENCH EQUATORIAL AFRICA	SV	CRETE & GREECE	ZC2	COCOS ISLANDS
FR7	REUNION ISLAND	SV5	DODECANESE ISLANDS	ZC3	CHRISTMAS ISLAND
FS7	SAINT MARTIN	TA	TURKEY	ZC4	CYPRUS
FU8	NEW HEBRIDES	TF	ICELAND	ZC5	BRITISH NORTH BORNEO
FY7	FRENCH GUIANA	TG	GUATEMALA	ZC6	PALESTINE
G	ENGLAND	TI	COSTA RICA	ZD1	SIERRA LEONE
GC	CHANNEL ISLANDS	TI9	COCOS ISLAND	ZD2	NIGERIA
GD	ISLE OF MAN	UA1-3-4-6	EUROPEAN RUSSIAN SOCIALIST FEDERATED SOVIET REPUBLIC	ZD3	GAMBIA
GI	NORTHERN IRELAND	UA9-φ	ASIATIC RUSSIAN S. F. S. R.	ZD6	NYASALAND
GM	SCOTLAND	UB5	UKRAINE	ZD7	SAINT HELENA
GW	WALES	UC5	WHITE RUSSIAN S.S.R.	ZD8	ASCENSION ISLAND
HA	HUNGARY	UD6	AZERBAIJAN	ZD9	TRISTAN DA CUNHA
HB	SWITZERLAND	UF6	GEORGIA	ZE	SOUTHERN RHODESIA
HC	ECUADOR	UG6	ARMENIA	ZK1	COOK ISLANDS
HEI	LIECHTENSTEIN	UH8	TURKOMAN	ZK2	NIUE
HH	HATTI	UI8	UZBEK	ZL	NEW ZEALAND
HI	DOMINICAN REPUBLIC	UJ8	TADZHIK	ZM	WESTERN SAMOA
HK	COLOMBIAN REPUBLIC	UL7	KAZAKH	ZP	PARAGUAY
HL1	KOREA	UM8	KIRGHIZ	ZS	UNION OF SOUTH AFRICA
HP	PANAMA	UN1	KARELO-FINNISH REPUBLIC	ZS2	PRINCE EDWARD & MARION ISLANDS
HR	HONDURAS	UO5	MOLDAVIA	3A2	MONACO
HS	THAILAND	UP	LITHUANIA	3V8	TUNISIA
HV	VATICAN CITY	UQ	LATVIA	3W8	VIETNAM
HZ	SAUDI ARABIA	UR	ESTONIA	4S7	CEYLON
I	ITALY	VE	CANADA	4W1	YEMEN
JA	JAPAN	VK	AUSTRALIA	4X4	ISRAEL
JY	JORDAN	VK7	TASMANIA	5A2	LIBYA
JZφ	NETHERLANDS NEW GUINEA	VK9	PAPUA TERRITORY	9G1	GHANA
K	UNITED STATES	VO	NEWFOUNDLAND & LABRADOR	9K2	KUWAIT
KA	JAPAN	VP1	BRITISH HONDURAS		
KB6	BAKER, CANTON, ENDERBURY, HOWLAND & PHOENIX ISLANDS	VP2	LEEWARD & WINDWARD ISLANDS		
KC4	ANTARCTICA				

PUNCH YOUR SIGNAL HOME!

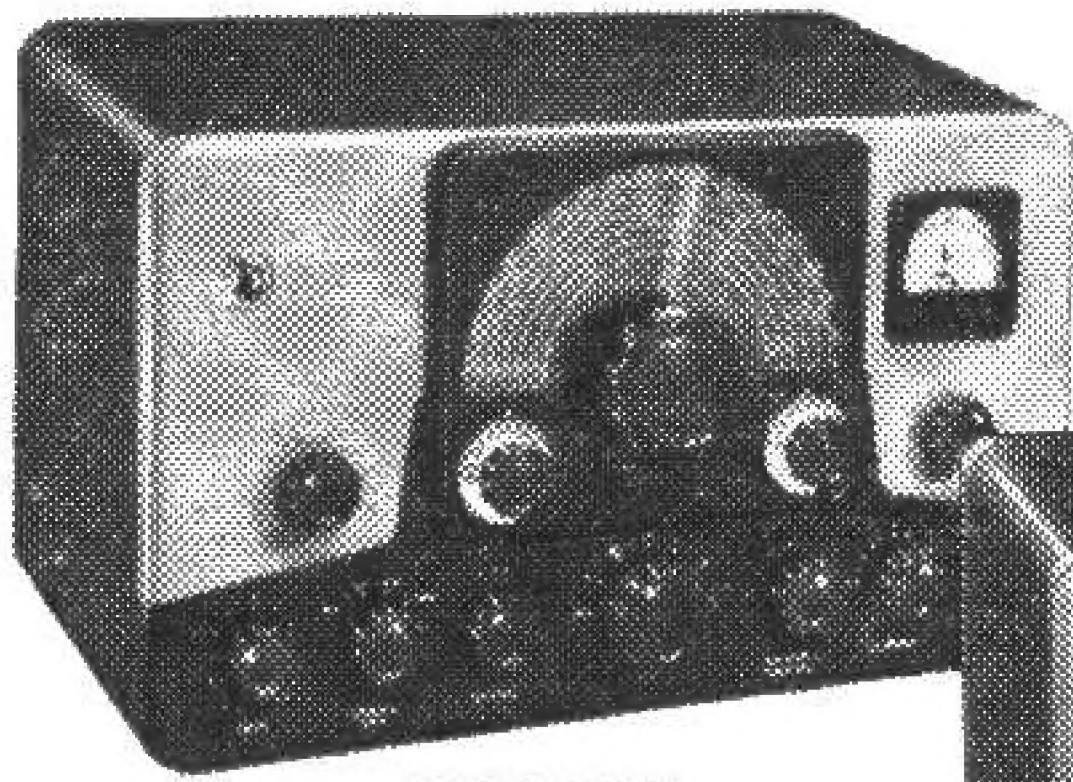
...with one of these power-packed VIKING TRANSMITTERS



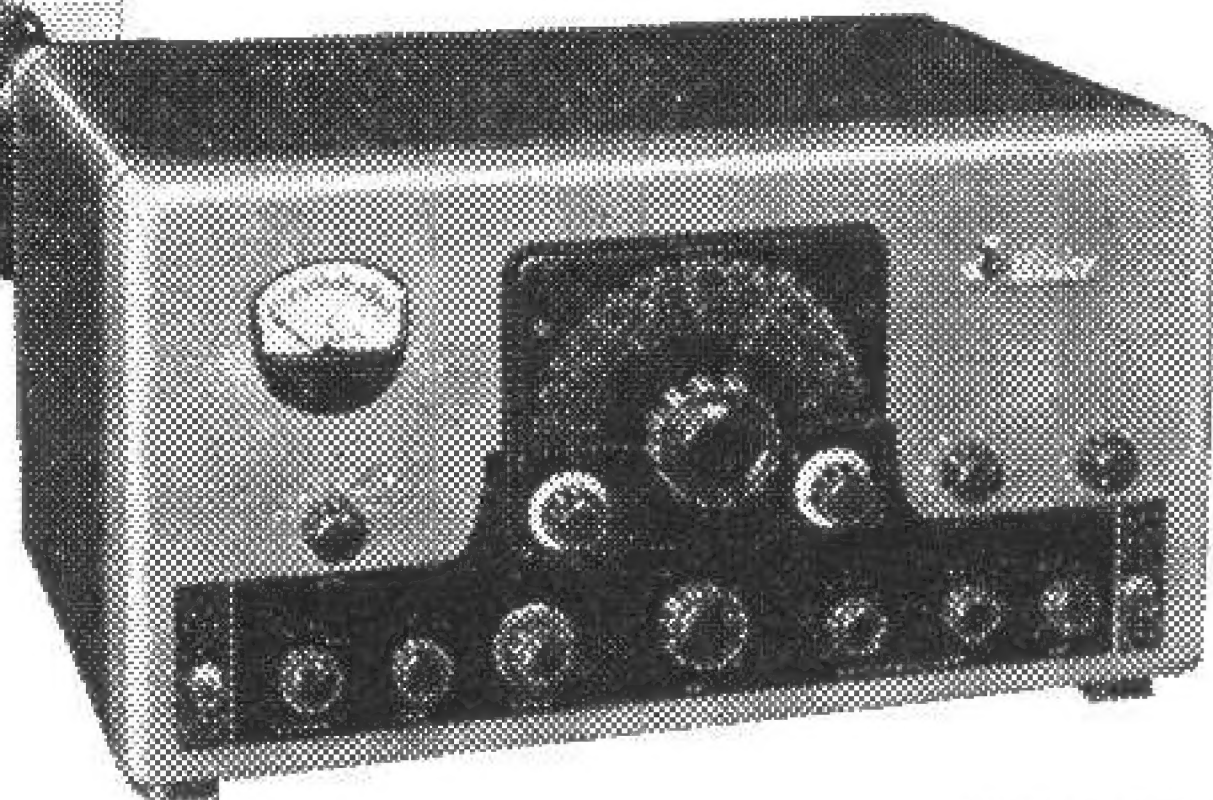
240-181



240-126



240-161



240-104

VIKING "ADVENTURER" TRANSMITTER—50 watts CW input—instant bandswitching 80, 40, 20, 15, 11, and 10 meters! Crystal or external VFO control. With tubes, less crystals and key.

Cat. No. 240-181-1. .Kit Amateur Net \$54.95

VIKING "NAVIGATOR" TRANSMITTER/EXCITER—More than enough RF power to excite most high powered final amplifiers on CW and AM. 40 watts CW input—bandswitching 160 through 10 meters. With tubes, less crystals and key.

Cat. No. 240-126-1. .Kit Amateur Net \$149.50

Cat. No. 240-126-2. .Wired and Tested Amateur Net \$199.50

VIKING "RANGER" TRANSMITTER/EXCITER—An outstanding amateur transmitter—also serves as an RF and audio exciter for high power equipment. 75 watts CW and 65 watts phone input—instant bandswitching 160, 80, 40, 20, 15, 11 and 10 meters. With tubes, less crystals, key and microphone.

Cat. No. 240-161-1. .Kit Amateur Net \$229.50

Cat. No. 240-161-2. .Wired and Tested Amateur Net \$329.50

VIKING "VALIANT" TRANSMITTER—Designed for outstanding flexibility and performance. 275 watts input on CW and SSB (P.E.P. input with auxiliary SSB exciter), 200 watts AM. Instant bandswitching 160 through 10 meters. With tubes, less crystals, key, and microphone.

Cat. No. 240-104-1. .Kit Amateur Net \$349.50

Cat. No. 240-104-2. .Wired and Tested Amateur Net \$439.50



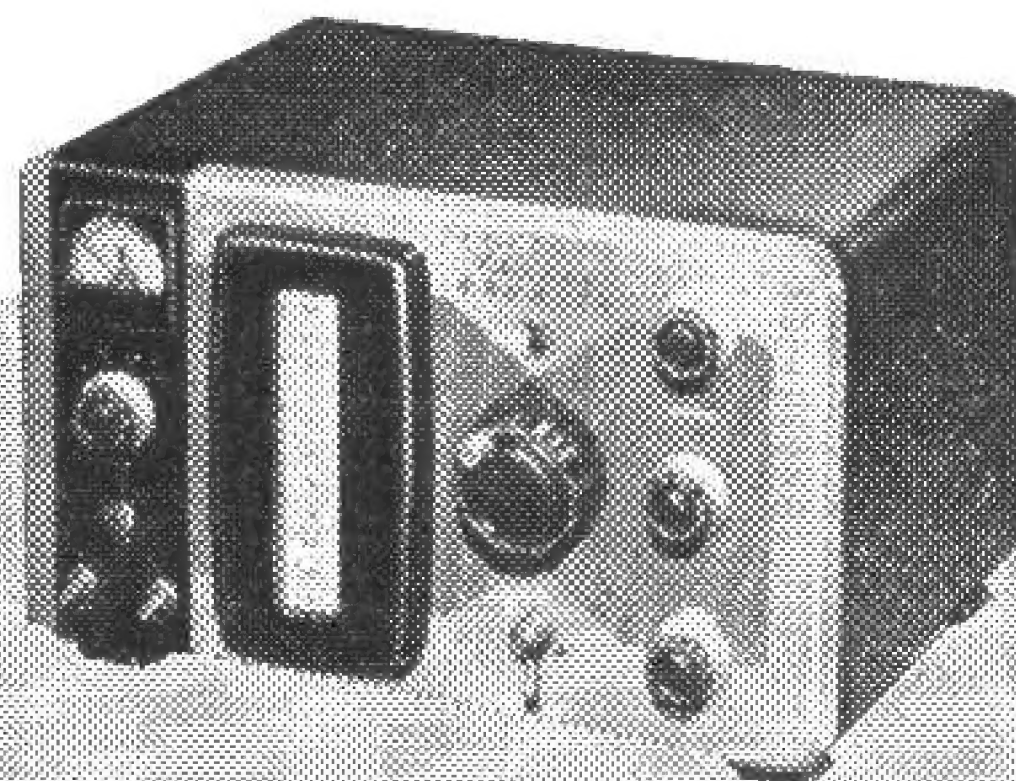
VIKING "FIVE-HUNDRED" TRANSMITTER — Rated a full 600 watts CW . . . 500 watts phone and SSB. (P.E.P. input with auxiliary SSB exciter.) Two compact units—RF unit small enough to place on your operating desk beside your receiver. Instant bandswitching 80 through 10 meters. With tubes, less crystals, key and microphone.

Cat. No. 240-500-1 Amateur Net \$749.50

Kit Amateur Net \$749.50

Cat. No. 240-500-2 Amateur Net \$949.50

Wired and Tested Amateur Net \$949.50



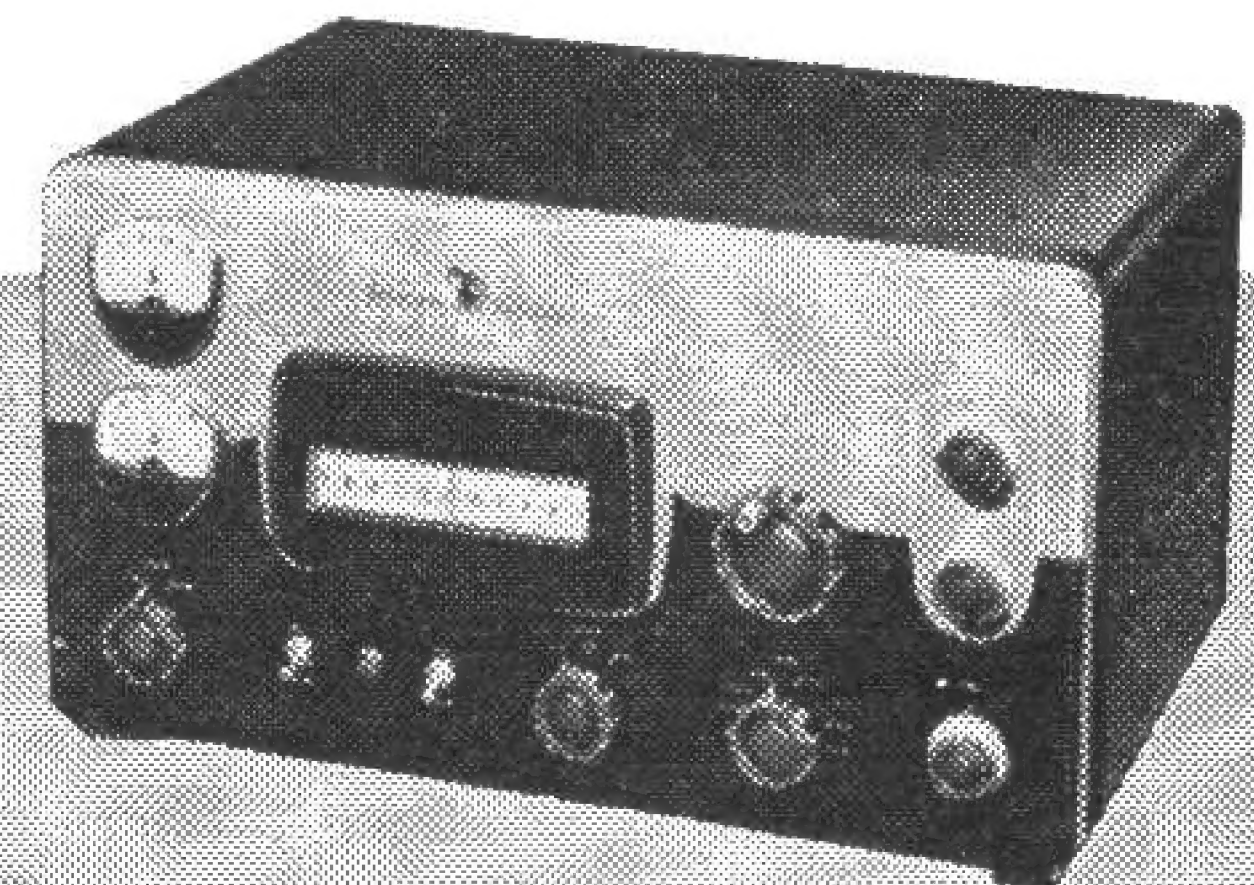
VIKING "COURIER" AMPLIFIER—Rated a solid 500 watts P.E.P. input with auxiliary SSB exciter as a Class B linear amplifier—500 watts input CW or 200 watts in AM linear mode. Completely self-contained desk-top package. Drive requirements 5 to 35 watts depending on mode and frequency desired. Continuous coverage 3.5 to 30 mcs. With tubes and built-in power supply.

Cat. No. 240-352-1 Amateur Net \$244.50

Kit Amateur Net \$244.50

Cat. No. 240-352-2 Amateur Net \$289.50

Wired and Tested Amateur Net \$289.50



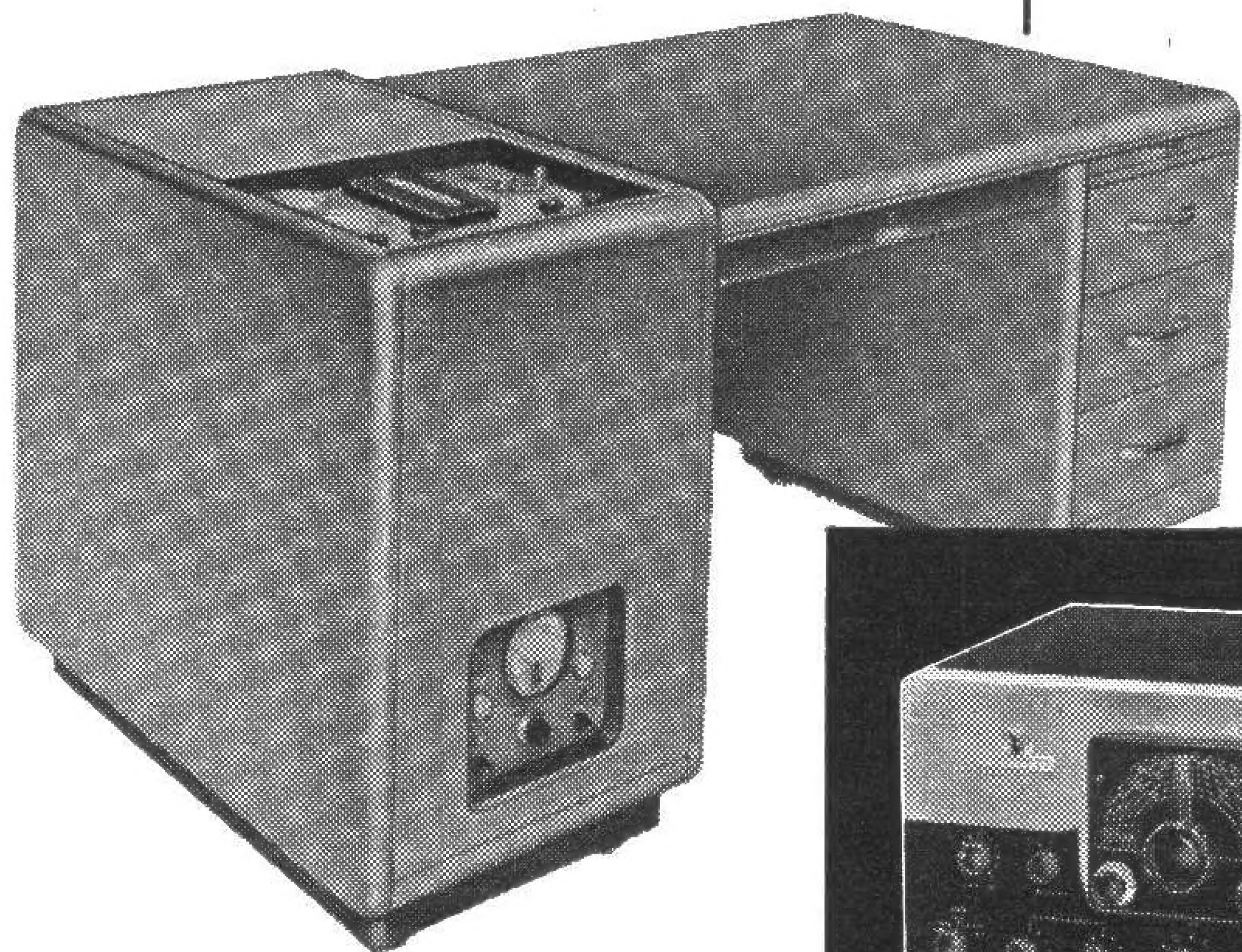
VIKING "THUNDERBOLT" AMPLIFIER—More than 2000 watts P.E.P. input SSB*—1000 watts CW—800 watts AM linear; in a completely self-contained desk-top package. Continuous coverage 3.5 to 30 mcs. Drive requirements: approximately 10 watts in Class AB2 linear, 20 watts Class C continuous wave. Complete with tubes and self-contained power supply.

Cat. No. 240-353-1 Amateur Net \$524.50

Kit Amateur Net \$524.50

Cat. No. 240-353-2 Amateur Net \$589.50

Wired and Tested Amateur Net \$589.50

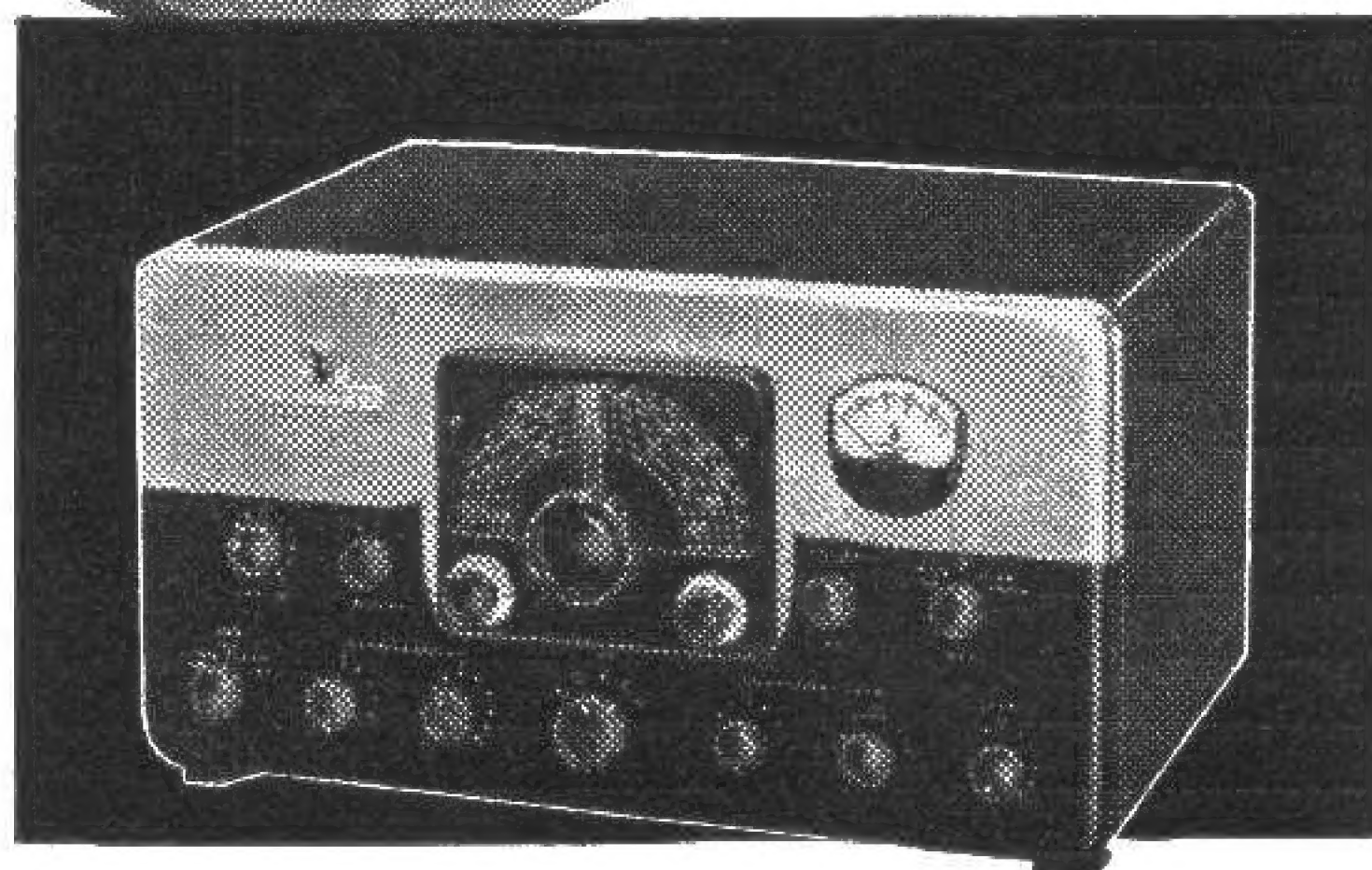


VIKING "KILOWATT" AMPLIFIER—In a class by itself . . . the only transmitter available that provides full, maximum legal power in all modes SSB, CW and AM—more than 2000 watts SSB*. Class C final amplifier operation provides plate circuit efficiencies in excess of 70% with unequalled broadcast-type HIGH LEVEL AMPLITUDE MODULATION with more than three times the AM power obtained in KW class linear equipments! Continuous tuning 3.5 to 30 mcs. Excitation requirements: 30 watts RF and 10 watts audio for AM; 2-3 watts peak for SSB. Wired and tested, with tubes.

Cat. No. 240-1000 Amateur Net \$1595.00

Matching accessory desk top, back, and three-drawer pedestal.

Cat. No. 251-101-1 FOB Corry, Pa. \$132.00



VIKING "PACEMAKER" TRANSMITTER/EXCITER—90 watts SSB P.E.P. and CW input . . . 35 watts AM. Instant bandswitching 80, 40, 20, 15 and 10 meters. Excellent stability and suppression. Temperature compensated VFO; VOX and anti-trip circuits; high efficiency pi-network output. More than enough power to drive the Viking "Kilowatt" or grounded-grid kilowatt amplifiers. With tubes and crystals, less key and microphone.

Cat. No. 240-301-2 Amateur Net \$495.00

*The F.C.C. permits a maximum one kilowatt average power input for the amateur service. In SSB operation under normal conditions this results in peak envelope power inputs of 2000 watts or more depending upon individual voice characteristics.



E.F. Johnson Company

3106 SECOND AVENUE S.W. • WASECA, MINNESOTA

PREFIXES—BY COUNTRIES

The following countries listed in alphabetical order by country show international radio amateur prefixes. Characters in () designate the continent and zone in which the country is located. Abbreviations are as follows: A—Asia, AF—Africa, E—Europe, NA—North America, O—Oceania, SA—South America.

ADEN	(A-21)	VS9
AFGHANISTAN	(A-21)	YA
ALAND ISLANDS	(E-14)	OH4
ALASKA	(NA-1)	KL7
ALBANIA	(E-15)	ZA
ALGERIA	(AF-33)	FA
ANDORRA	(E-14)	PX
ANGLO-EGYPTIAN SUDAN	(AF-34)	ST
ANGOLA	(AF-36)	CR6
ARGENTINA	(SA-13)	LU
ASCENSION ISLAND	(AF-36)	ZD8
AUSTRALIA	(O-29 & 30)	VK
AUSTRIA	(E-15)	OE
AZORES ISLANDS	(E-14)	CT2
BAHAMA ISLANDS	(NA-8)	VP7
BAHRAIN ISLANDS	(A-21)	MP4
BAKER ISLAND	(O-31)	KB6
BALEARIC ISLANDS	(E-14)	EA6
BARBADOS	(NA-8)	VP6
BASUTOLAND	(AF-38)	ZS4
BELGIAN CONGO	(AF-36)	OQ
BELGIUM	(E-14)	ON
BERMUDA ISLANDS	(NA-5)	VP9
BHUTAN	(A-23)	AC5
BOLIVIA	(SA-10)	CP
BORNEO (Br. North)	(O-28)	VS4
BRAZIL	(SA-11)	PY
BRITISH HONDURAS	(NA-7)	VP1
BRITISH NORTH BORNEO	(A-28)	ZC5
BRUNEI	(O-28)	VS5
BULGARIA	(E-20)	LZ
BURMA	(A-26)	XZ
CAMEROONS, British	(AF-36)	ZD2
CAMEROONS, French	(AF-36)	FE8
CANADA	(NA-1 to 5)	VE
CANAL ZONE	(NA-7)	KZ5
CANARY ISLANDS	(AF-33)	EA8
CANTON ISLAND	(O-31)	KB6
CAPE VERDE ISLANDS	(AF-35)	CR4
CAROLINE ISLANDS	(O-27)	KC6
CAYMAN ISLANDS	(NA-8)	VP5
CEYLON	(A-22)	VS7
CHAGOS ISLANDS	(AF-39)	VQ8
CHANNEL ISLANDS	(E-14)	GC
CHILE	(SA-12)	CE
CHINA	(A-23 & 24)	C
CHRISTMAS ISLAND	(O-29)	ZC3
COCOS ISLAND	(NA-7)	TI
COCOS ISLANDS	(O-29)	ZC2
COLOMBIA	(SA-9)	HK
COOK ISLANDS	(O-32)	ZK1
CORSICA	(E-15)	FC
COSTA RICA	(NA-7)	TI
CRETE	(E-20)	SV
CUBA	(NA-8)	CM, CO
CYPRUS	(A-20)	ZC4
CZECHOSLOVAKIA	(E-15)	OK
DENMARK	(E-14)	OZ
DODECANESE ISLANDS	(E-20)	SV5
DOMICAN REPUBLIC	(NA-8)	HI
ECUADOR	(SA-10)	HC
EGYPT	(AF-34)	SU
ELICE ISLANDS	(O-31)	VR1
ENGLAND	(E-14)	G
ERITREA	(AF-37)	ET2
ETHIOPIA	(AF-37)	ET3
FAEROES, The	(E-14)	OY
FALKLAND ISLANDS	(SA-13)	VP8
FANNING ISLAND	(O-31)	VR3
FIJI ISLANDS	(O-32)	VR2
FINLAND	(E-15)	OH
FORMOSA	(A-24)	BV
FRANCE	(E-14)	F
FR. EQUATORIAL AFRICA	(AF-36)	FO8
FRENCH OCEANIA	(O-32)	FO8
FRENCH WEST AFRICA	(AF-35)	FF8
GAMBIA	(AF-35)	ZD3
GERMANY	(E-14)	DL
GHANA	(AF-35)	9G1
GIBRALTAR	(E-14)	ZB2
GILBERT ISLANDS	(O-31)	VR1
GOA (Portuguese India)	(A-22)	CR8
GREECE	(E-20)	SV
GREENLAND	(NA-40)	OX
GUADELOUPE	(NA-8)	FG7
GUAM	(O-27)	KG6
GUANTANAMO BAY	(NA-8)	KG4

GUATEMALA	(NA-7)	TG
GUIANA, BRITISH	(SA-9)	VP3
GUIANA, FRENCH	(SA-9)	FY7
GUIANA, NETHERLANDS	(SA-9)	PZ
GUINEA, PORTUGUESE	(AF-35)	CR5
HAITI	(NA-8)	HH
HAWAIIAN ISLANDS	(O-31)	KH6
HONDURAS	(NA-7)	HR
HONG KONG	(A-24)	VS6
HOWLAND ISLAND	(O-31)	KB6
HUNGARY	(E-15)	HA
ICELAND	(E-40)	TF
INDIA	(A-21)	VU
IRAN	(A-21)	EQ
IRAQ	(A-21)	YI
IRELAND	(E-14)	EI
ISLE OF MAN	(E-14)	GD
ISRAEL	(A-20)	4X4
ITALY	(E-15)	I
IWO JIMA ISLAND	(O-25)	KG6I
JAMAICA	(NA-8)	VP5
JAN MAYEN ISLAND	(E-40)	OY
JAPAN	(A-25)	KA
JARVIS ISLAND	(O-31)	KP6
JOHNSTON ISLAND	(O-31)	KJ6
JORDAN	(A-20)	JY
KENYA	(AF-37)	VQ4
KERMANDIC ISLANDS	(O-32)	ZL1
KOREA	(A-25)	HL1
KUWAIT	(A-21)	9K2
LABRADOR	(NA-2)	VO
LACCADIVE ISLANDS	(A-22)	VU4
LAOS	(A-26)	XW8
LEBANON REPUBLIC	(A-20)	OD5
LEEWARD ISLANDS	(NA-8)	VP2
LIBERIA	(AF-35)	EL
LIBYA	(AF-34)	5A2
LIECHTENSTEIN	(E-14)	HE1
LITTLE AMERICA	(SA-13)	KC4
LUXEMBOURG	(E-14)	LX
MACAU	(A-24)	CR9
MADAGASCAR	(AF-39)	FB8
MADEIRA ISLANDS	(AF-33)	CT3
MALAYA	(A-28)	VS1, 2
MALDIVES ISLANDS	(A-22)	VS9
MALTA	(E-15)	ZB1
MARIANAS ISLANDS	(O-27)	KG6
MARSHALL ISLANDS	(O-31)	KX6
MARTINIQUE	(NA-8)	FM7
MAURITIUS	(AF-39)	VQ8
MEXICO	(NA-6)	XE
MIDWAY ISLAND	(O-31)	KM6
MIQUELON ISLAND	(NA-5)	FP8
MONACO	(E-14)	3A2
MOROCCO, French	(AF-33)	CN
MOROCCO, Spanish	(AF-33)	EA9
MOZAMBIQUE	(AF-37)	CR7
NAVASSA ISLAND	(NA-8)	KC4
NETHERLANDS	(E-14)	PA
NETHERLAND INDIES	(A-28)	PK
NETHERLANDS NEW GUINEA	(A-28)	JZ4
NETHERLAND W. INDIES	(SA-9)	PJ
NEW CALEDONIA	(O-32)	FK8
NEWFOUNDLAND	(NA-5)	VO
NEW GUINEA, Territory of	(O-28)	VK9
NEW HEBRIDES	(O-32)	FU8, YJ
NEW ZEALAND	(O-32)	ZL
NICARAGUA	(NA-7)	YN
NIGERIA	(AF-35)	ZD2
NIUE	(O-32)	ZK2
NORTHERN IRELAND	(E-14)	GI
NORWAY	(E-14)	LA
NYASALAND	(AF-37)	ZD6
OKINAWA	(A-25)	KR6
OMAN	(A-21)	MP4
PAKISTAN	(A-21, 22)	AP
PALESTINE	(A-20)	ZC6
PANAMA	(NA-7)	HP
PAPUA TERRITORY	(O-28)	VK9
PARAGUAY	(SA-11)	ZP
PERU	(SA-10)	OA
PHILIPPINE ISLANDS	(O-27)	DU
PITCAIRN ISLAND	(O-32)	VR6
POLAND	(E-15)	SP
PORTUGAL	(E-14)	CT1
PRINCE EDWARD & MARION ISLANDS	(AF-38)	ZS2
PUERTO RICO	(NA-8)	KP4

REUNION ISLAND	(AF-39)	FR7
RHODESIA, NORTHERN	(AF-36)	VQ2
RHODESIA, SOUTHERN	(AF-38)	ZE
ROUMANIA	(E-20)	YO
RYUKYU ISLANDS	(A25)	KR6
SAARLAND	(E1-4)	DL8
SAINT HELENA	(AF-36)	ZD7
SAINT MARTIN	(NA-8)	FS7
SAIPAN ISLAND	(O-27)	KG6S
SALVADOR	(NA-7)	YS
SAMOA (U.S.)	(O-32)	KS6
SAMOA (Western)	(O-32)	ZM
SAN MARINO	(E-15)	M1
SARAWAK	(O-28)	VS5
SAUDI ARABIA	(A-21)	HZ
SCOTLAND	(E-14)	GM
SEYCHELLES	(AF-39)	VQ9
SIERRA LEONE	(AF-35)	ZD1
SIKKIM	(A-22)	AC3
SOCOTRA ISLAND	(A-37)	VS9
SOLOMON ISLANDS	(O-28)	VR4
SOMALILAND, British	(AF-37)	VQ6
SOMALILAND, French	(AF-37)	FL8
SOMALILAND, Italian	(AF-37)	I5
SOUTH GEORGIA	(SA-13)	VP8
SOUTH ORKNEY ISLANDS	(SA-13)	VP8
SOUTH SANDWICH ISLANDS	(SA-13)	VP8
SOUTH SHETLAND ISLANDS	(SA-13)	VP8
SOUTHWEST AFRICA	(AF-38)	ZS3

SOVIET UNION:

EUROPEAN RUSSIAN SOCIALIST

FEDERATED SOVIET REP.	(E-16)	UA1, 3, 4, 6
ASIATIC RUSSIAN S.F.S.R.	(A-18, 19)	UA9, 4
UKRAINE	(E-16)	UB5
WHITE RUSSIAN S.S.R.	(E-16)	UC
AZERBAIJAN	(E-21)	UD6
GEORGIA	(E-21)	UF6
ARMENIA	(E-21)	UG6
TURKOMAN	(A-17)	UH8
UZBEK	(A-17)	UI8
TADZHIK	(A-17)	UJ8
KAZAKH	(A-17)	UL7
KIRGHIZ	(A-17)	UM8
KARELO-FINNISH REP.	(E-16)	UN1
MOLDAVIA	(E-16)	UO5
LITHUANIA	(E-15)	UP
LATVIA	(E-15)	UQ
ESTONIA	(E-15)	UR
SPAIN	(E-14)	EA
SPANISH GUINEA	(AF-36)	EA4
SWAN ISLAND	(NA-7)	KS4
SWEDEN	(E-14)	SM
SWITZERLAND	(E-14)	HB
SYRIA	(A-20)	YK

TANGANYIKA	(AF-37)	VQ3
TANGIER ZONE	(AF-33)	CN2
THAILAND	(A-26)	HS
TIBET	(A-23)	AC4
TIMOR, Portuguese	(O-28)	CR10
TINIAN ISLAND	(O-27)	KG6T
TOGOLAND, French	(AF-35)	FD8
TONGA (Friendly) ISLANDS	(O-32)	VR5
TRANSJORDAN	(A-20)	ZC1
TRINIDAD & TOBAGO	(SA-9)	VP4
TRISTAN da CUNHA & COUGH ISLAND	(AF-38)	ZD9
TUNISIA	(AF-33)	3V8
TURKEY	(A-20)	TA
TURKS & CAICOS ISLANDS	(NA-8)	VP5

UGANDA	(AF-37)	VQ5
UNION OF SOUTH AFRICA	(AF-38)	ZS
UNITED STATES of AMERICA	(NA-3, 4, 5)	W, K
URUGUAY	(SA-13)	CX

VATICAN CITY	(E-15)	HV
VENEZUELA	(SA-9)	YV
VIETNAM	(A-26)	3W8
VIRGIN ISLANDS	(NA-8)	KV4

WAKE ISLAND	(O-31)	KW6
WALES	(E-14)	GW
WINDWARD ISLANDS	(NA-8)	VP2

YEMEN	(A-21)	4W1
YUGOSLAVIA	(E-15)	YT, YU

ZANZIBAR	(AF-37)	VQ1
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New!

hallicrafters

"2 and 6"


SR-34

 two and six meter
transmitter/receiver

**World's first complete two and six meter radio station...
features transistorized, built-in power supply**

COMPLETE SPECIFICATIONS

General description: The SR-34 is designed for either AM or CW and combines, for the first time in one compact package, the complete functions of a two *and* six meter radio station. It operates on 115-V. A.C., 6-V. D.C., or 12 V. D.C. and features a highly efficient transistorized power supply for the 6 and 12 volt operation.

Exclusive features: The perfect unit for short-range portable, fixed or mobile communication, the SR-34 meets—and exceeds—F.C.D.A. matching-fund specifications. The crystal sockets and transmitter tuning controls are concealed behind a panel which may be sealed to prevent tampering. Instantaneous selection of desired voltage possible and also "crossbanding" between the two and six meter bands. The specially designed cover has mounting clips for two-band antenna, owner's microphone, and cords.

Both receiver and transmitter may be used for C.W.; key jack and adjustable B.F.O. are provided. Drip-proof case is specially designed for safe outdoor use.

The transmitter is crystal-controlled; up to four crystals may be switch-selected. A fifth position on this switch permits external V.F.O. operation. Band selection also is front-panel controlled.

The receiver is a double conversion superhetero-

dyne, having a quartz crystal controlled second oscillator. This offers outstanding selectivity and high image rejection. Highest stability is obtained through separate oscillator and R.F. sections for each band.

All receiver functions provided—S-meter B.F.O., ANL, etc. Sensitivities average 1 microvolt on both bands. Transistorized power supply eliminates noisy, erratic operation encountered with vibrator-type power supplies.

Front Panel Controls: *Receiver:* Band Selector (49-54 mc., 143.5 to 148.2 mc.); Main Tuning; Sensitivity; Audio Volume; B.F.O. Pitch; Squelch Level; Headphone Jack. *Transmitter:* Function Switch (P.A., Rec., Cal., AM, CW); Power On/Off; Band Switch; Crystal Selector and V.F.O.; Oscillator Tuning; Doubler Tuning; Tripler Tuning; Final Tuning; Final Loading; Meter Switch.

Power output: 6 to 7½ watts on 2 meter, and 7 to 10 watts on 6 meter AM or CW, 100% mod. negative peak clipping. *Rear Apron:* Speech input level control; key jack; P.A. speaker terminals; mic. selector (high Z or carbon); mic. input; A.C. and D.C. fuses; power plug.

Available with convenient terms from your Radio Parts Distributor.

Export Sales: International Division—Raytheon Manufacturing Co.—Waltham, Massachusetts



The new ideas in communications

are born at . . .

In our 25th year of service

hallicrafters

Chicago 24, Illinois

POSTAL INFORMATION

The following table shows the postal rates for QSL cards, first class letters and air mail to the United States Possessions and foreign countries. International reply coupons may be purchased at any United States Post office. Upon presentation at a post office in any country except Korea, the coupon will entitle the person presenting it to receive a postage stamp or stamps of that country of sufficient value to prepay an ordinary letter of the first unit of weight addressed for delivery in this country. The column marked "RP" shows the number of international reply coupons required to prepay an air mail letter of the first weight unit from the countries indicated to the United States. The first class rates show the rate for the first ounce. Add five cents for each additional ounce or fraction with the exception of Canada, Newfoundland and Mexico which is 4¢ for each additional ounce or fraction. The air mail rates are for each half ounce except where indicated.

COUNTRY	QSL cards	First class	Air mail	RP	COUNTRY	QSL cards	First class	Air mail	RP	COUNTRY	QSL cards	First class	Air mail	RP
ADEN	\$.05	\$.08	\$.25	7	FRENCH OCEANIA	.05	.08	.25	3	NORWAY	.05	.08	.15	2
AFGHANISTAN	.05	.08	.25	7	FRENCH SOMALILAND	.05	.08	.25	3	NYASALAND	.05	.08	.25	4
ALASKA	.03	.04	.07*		FRENCH SUDAN	.05	.08	.25	2	OKINAWA	.05	.08	.25	5
ALBANIA	.05	.08	.15	2	FRENCH TOGOLAND	.05	.08	.25	2	PAKISTAN	.05	.08	.25	5
ALGERIA	.05	.08	.15	2	GAMBIA	.05	.08	.25	6	PALESTINE	.05	.08	.25	
ANDORRA	.05	.08	.15	8	GERMANY	.05	.08	.15	2	PANAMA	.05	.08	.10	3
ANGLO-EGYPTIAN SUDAN	.05	.08	.25	4	GIBRALTAR	.05	.08	.15	3	PAPUA	.05	.08	.25	6
ANGOLA	.05	.08	.25	4	GHANA	.05	.08	.25		PARAGUAY	.05	.08	.10	3
ANGUILLA	.05	.08	.10	6	GILBERT & ELLICE IS.	.05	.08	.25	6	PERU	.05	.08	.10	5
ANTIGUA	.05	.08	.10	6	GREECE	.05	.08	.15	2	PHILIPPINE IS.	.05	.08	.25	15
ARGENTINA	.05	.08	.10	5	GREENLAND	.05	.08	.15		PITCAIRN ISLAND	.05	.08	.25	
ARUBA	.05	.08	.10	1	GRENADA, BWI	.05	.08	.10	3	POLAND	.05	.08	.15	3
ASCENSION ISLAND	.05	.08	.25		GRENADINES, BWI	.05	.08	.10	3	PORTUGAL	.05	.08	.15	3
AUSTRALIA	.05	.08	.25	4	GUADELOUPE	.05	.08	.10	2	PORT. EAST AFRICA	.05	.08	.25	3
AUSTRIA	.05	.08	.15	2	GUAM	.03	.04	.07*		PORTUGUESE GUINEA	.05	.08	.25	3
AZORES	.05	.08	.15	3	GUATEMALA	.05	.08	.10	2	PORTUGUESE INDIA	.05	.08	.25	3
BAHAMAS	.05	.08	.10	2	HAITI	.05	.08	.10	2	PORTUGUESE TIMOR	.05	.08	.25	5
BAHREIN ISLANDS	.05	.08	.25	4	HAWAII	.03	.04	.07*		PORTUGUESE W. AFRICA	.05	.08	.25	3
BALEARIC ISLANDS	.05	.08	.15	8	HONDURAS	.05	.08	.10	2	PUERTO RICO	.03	.04	.07*	
BALUCHISTAN	.05	.08	.25	5	HONG KONG	.05	.08	.25	5	REDONDA, BWI	.05	.08	.10	6
BARBADOS	.05	.08	.10	2	HUNGARY	.05	.08	.15	3	REUNION ISLAND	.05	.08	.25	3
BARBUDA	.05	.08	.10	2	ICELAND	.05	.08	.15	2	RIO DE ORO	.05	.08	.25	10
BECHUANALAND	.05	.08	.25	6	INDIA	.05	.08	.25	6	ROMANIA	.05	.08	.15	5
BELGIAN CONGO	.05	.08	.25	3	INDONESIA	.05	.08	.25	4	RYUKYU ISLANDS	.05	.08	.25	5
BELGIUM	.05	.08	.15	2	IRAN	.05	.08	.25	5	ST CHRISTOPHER, BWI	.05	.08	.10	6
BERMUDA	.05	.08	.10	3	IRAQ	.05	.08	.25	3	ST HELENA	.05	.08	.25	6
BOLIVIA	.05	.08	.10	3	ISRAEL	.05	.08	.25	2	ST KITS, BWI	.05	.08	.10	6
BRAZIL	.05	.08	.10	3	ITALY	.05	.08	.15	2	ST LUCIA, BWI	.05	.08	.10	4
BRITISH CAMEROONS	.05	.08	.25	6	IVORY COAST	.05	.08	.25	2	ST PIERRE & MIQUELON	.05	.08	.08*	3
BRITISH GUIANA	.05	.08	.10	4	JAMAICA	.05	.08	.10	2	ST VINCENT, BWI	.05	.08	.10	4
BRITISH HONDURAS	.05	.08	.10	2	JAPAN	.05	.08	.25	4	SALVADOR	.05	.08	.10	2
BRITISH SOMALILAND	.05	.08	.25	8	JORDAN	.05	.08	.25	5	SAMOA (Br.)	.05	.08	.25	
BR. VIRGIN ISLANDS	.05	.08	.10	6	KENYA & UGANDA	.05	.08	.25	5	SAN MARINO	.05	.08	.15	2
BRUNEI	.05	.08	.25	6	KOREA	.05	.08	.25		SANTA CRUZ ISLANDS	.05	.08	.25	
BULGARIA	.05	.08	.15	3	LABUAN	.05	.08	.25	6	SARAWAK	.05	.08	.25	6
BURMA	.05	.08	.25	5	LAOS	.05	.08	.25		SAUDI ARABIA	.05	.08	.25	
CANADA	.03	.04	.07*	2	LATVIA	.05	.08	.15	4	SCOTLAND	.05	.08	.15	6
CANAL ZONE	.03	.04	.07*		LEBANON	.05	.08	.25	3	SENEGAL	.05	.08	.25	2
CANARY ISLANDS	.05	.08	.15	8	LIBERIA	.05	.08	.25	5	SEYCHELLES	.05	.08	.25	3
CANTON ISLAND	.03	.04	.07*		LIBYA	.05	.08	.15	5	SIERRA LEONE	.05	.08	.25	8
CAPE VERDE ISLANDS	.05	.08	.25	3	LIECHENSTEIN	.05	.08	.15	2	SOLOMON ISLANDS	.05	.08	.25	5
CAYMAN ISLANDS	.05	.08	.10	2	LITHUANIA	.05	.08	.15	4	SOMALIA	.05	.08	.25	5
CEYLON	.05	.08	.25	7	LUXEMBOURG	.05	.08	.15	2	SOUTHERN RHODESIA	.05	.08	.25	6
CHILE	.05	.08	.10	6	MACAO	.05	.08	.25	3	SOUTHWEST AFRICA	.05	.08	.25	6
CHINA	.05	.08	.25	4	MADAGASCAR	.05	.08	.25	4	SPAIN	.05	.08	.15	8
COLOMBIA	.05	.08	.10	7	MADEIRA ISLANDS	.05	.08	.15	3	SPANISH GUINEA	.05	.08	.25	10
COOK ISLANDS	.05	.08	.25	6	MALAYA	.05	.08	.25	5	SUDAN	.05	.08	.25	
CORSICA	.05	.08	.15	2	MALTA	.05	.08	.15	4	SURINAM	.05	.08	.10	3
COSTA RICA	.05	.08	.10	3	MARTINIQUE	.05	.08	.10	2	SWEDEN	.05	.08	.15	2
CUBA	.05	.08	.10	3	MAURITANIA	.05	.08	.25	2	SWITZERLAND	.05	.08	.15	2
CURACAO	.05	.08	.10	1	MAURITIUS	.05	.08	.25	3	SYRIA	.05	.08	.25	3
CYPRUS	.05	.08	.25	3	MEXICO	.03	.04	.07*	2	TANGANYIKA	.05	.08	.25	5
CYRENAICA	.05	.08	.15	5	MIDWAY ISLAND	.03	.04	.07*		THAILAND	.05	.08	.25	3
CZECHOSLOVAKIA	.05	.08	.15	2	MONACO	.05	.08	.15	2	TOGO	.05	.08	.25	
D'HOMEY	.05	.08	.25	2	MONTERRAT, BWI	.05	.08	.10	6	TONGA ISLANDS	.05	.08	.25	5
DENMARK	.05	.08	.15	2	MOROCCO, (Br. & Fr.)	.05	.08	.15	2	TRINIDAD	.05	.08	.10	3
DODECANESE IS.	.05	.08	.15	2	MOROCCO, (Spain)	.05	.08	.15	8	TRIPOLITANIA	.05	.08	.15	5
DOMINICA	.05	.08	.10	4	MOZAMBIQUE	.05	.08	.25	3	TRISTAN DA CUNHA	.05	.08	.25	
DOMINICAN REPUBLIC	.05	.08	.10	2	NAURU ISLAND	.05	.08	.25		TUNISIA	.05	.08	.15	2
ECUADOR	.05	.08	.10	2	NETHERLANDS	.05	.08	.15	3	TURKEY	.05	.08	.15	3
EGYPT	.05	.08	.15	2	NETHERLANDS	.05	.08	.15	3	TURKS ISLAND	.05	.08	.10	3
EIRE (Ireland)	.05	.08	.15	5	NEW GUINEA	.05	.08	.25		UGANDA	.05	.08	.25	5
ENGLAND	.05	.08	.15	6	NETHERLANDS W. INDIES	.05	.08	.10	1	UNION OF SOUTH AFRICA	.05	.08	.25	6
ERITREA	.05	.08	.25		NEVIS	.05	.08	.10	6	URUGUAY	.05	.08	.10	4
ESTONIA	.05	.08	.15	4	NEW CALEDONIA	.05	.08	.25	3	U.S.S.R.	.05	.08	.15	4
ETHIOPIA	.05	.08	.25	3	NEWFOUNDLAND	.03	.04	.07*	2	U. S. VIRGIN IS.	.03	.04	.07*	
FALKLAND ISLANDS	.05	.08	.10		NEW GUINEA	.05	.08	.25	6	VATICAN CITY	.05	.08	.15	2
FAEROES ISLANDS	.05	.08	.15	2	NEW HEBRIDES	.05	.08	.25	3	VENEZUELA	.05	.08	.10	3
FIJI ISLANDS	.05	.08	.25	6	NEW ZEALAND	.05	.08	.25	6	VIET-NAM	.05	.08	.25	
FINLAND	.05	.08	.15	2	NICARAGUA	.05	.08	.10	3	WAKE ISLAND	.03	.04	.07*	
FRANCE	.05	.08	.15	2	NIGER	.05	.08	.25	2	WESTERN SAMOA	.05	.08	.25	
FRENCH CAMEROONS	.05	.08	.25		NIGERIA	.05	.08	.25	6	YEMEN	.05	.08	.25	
FRENCH EQ. AFRICA	.05	.08	.25	3	NORTH BORNEO	.05	.08	.25	7	YUGOSLAVIA	.05	.08	.15	2
FRENCH GUIANA	.05	.08	.10	2	NORTHERN IRELAND	.05	.08	.15	6	ZANZIBAR	.05	.08	.25	6
FRENCH GUINEA	.05	.08	.25	2	NORTHERN RHODESIA	.05	.08	.25	7					

* rate per ounce.

QSL cards can be sent to any country in the world by air mail for 10 cents.

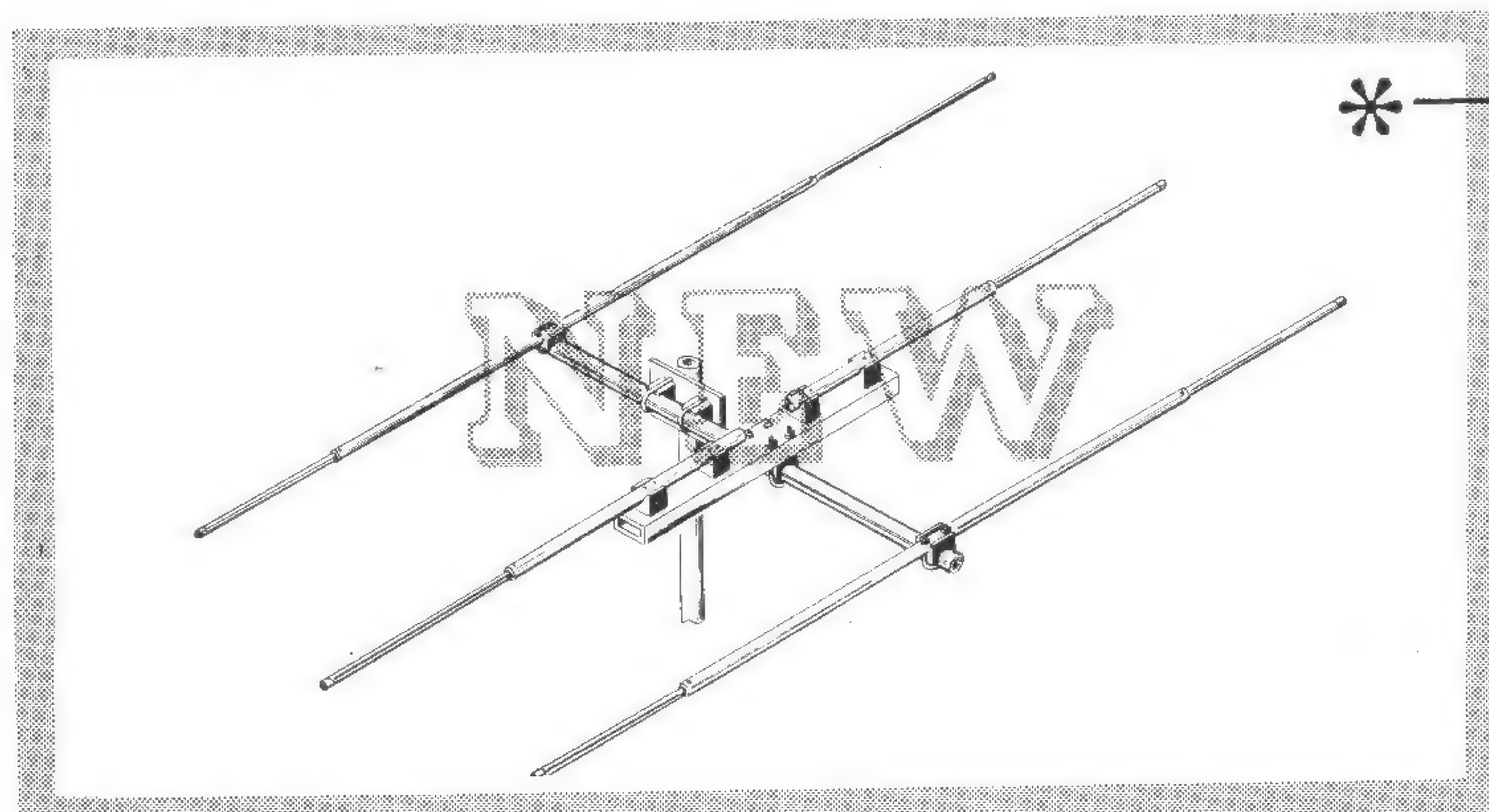
THESE RATES ARE CORRECTED AS OF AUGUST 1, 1958



Yes... Mosley has endeavoured to provide Radio Amateurs *the world over* with a complete line of fine antennas covering the most popular bands.

Great advancements in antenna design are constantly being produced by competent Mosley engineers... these are antennas of *proven merit*!

Compare Mosley antennas with other antennas of comparable price... you will agree, Mosley gives you the most value for your beam dollar!



*

Power-Master

**Rust-Proof Construction
Forward Gain 8.9db
Full Size Beams**

"Power-Master"... the all new **Full Size** beams by Mosley! Packed with a host of new features that will make yours the "Big Signal" on the bands! High efficiency assured with the famous Mosley Match. Rated to 1 KW. Low SWR over full bandwidth.

Model A-310. 3 Element, 10 Meters.....\$37.50 net
Model A-315. 3 Element, 15 Meters..... 42.50 net
Model A-320. 3 Element, 20 Meters..... 77.25 net

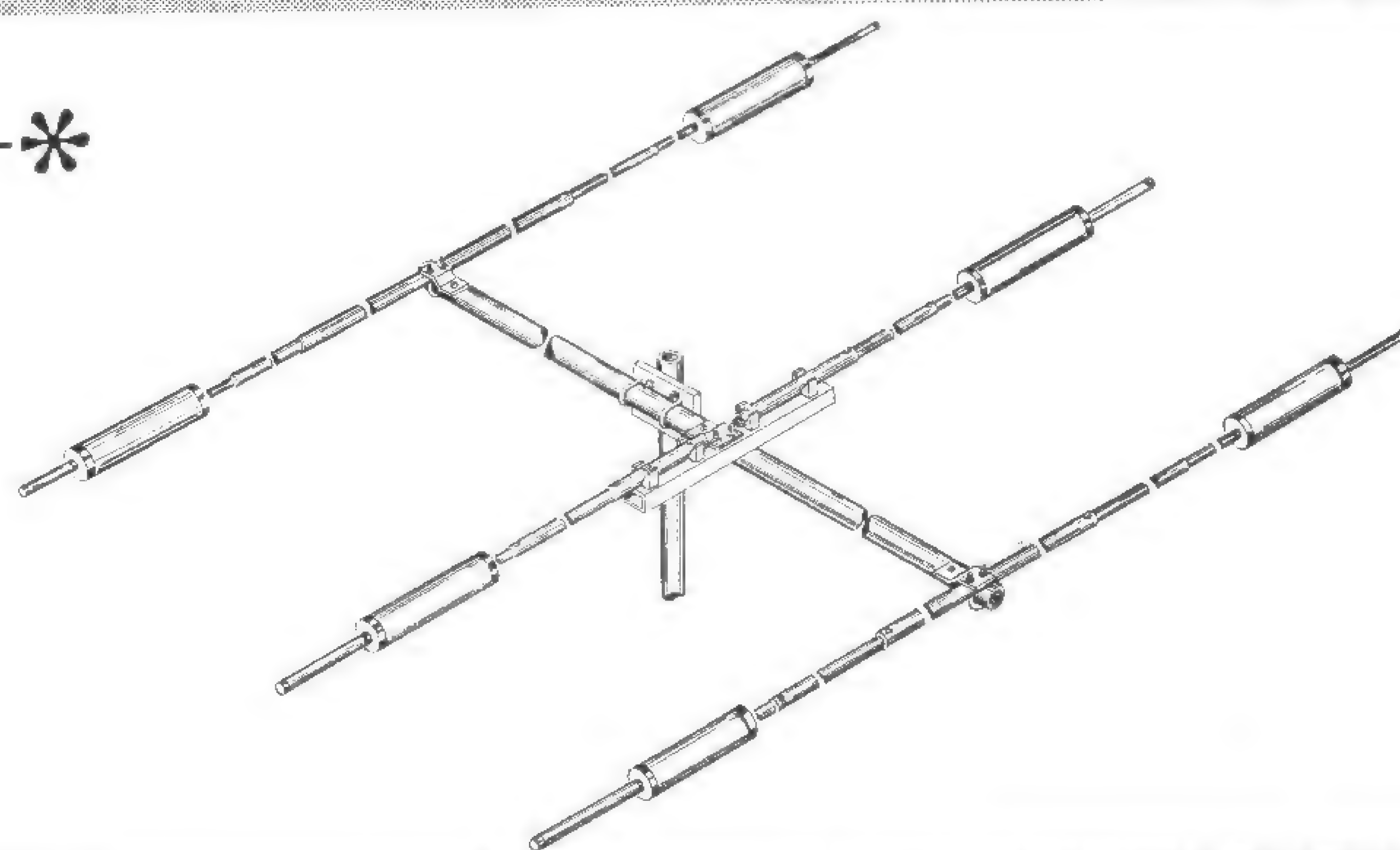
Trap-Master

**Rust-Proof Construction
Rated 1 KW
Weather-Sealed Traps**

This is the beam that is the talk of the "Ham Bands"! Famous for its High Performance and Low Cost, a sure bet to please you.

Model TA-33. 3 Element 10, 15, 20 Meters.....\$ 99.75
Model TA-32. 2 Element 10, 15, 20 Meters..... 69.50

*



Manufacturers of the famous "Trap-Vertical" Antennas and "Trap-Mobile".

MOSLEY ELECTRONICS, INC.

8622 St. Charles Rock Road St. Louis 14, Missouri

Export Department: 15 Moore St., New York 4, N.Y.

INTERNATIONAL "Q" SIGNALS

Abbreviation	Question	Answer or Advice	Abbreviation	Question	Answer or Advice
QRA	What is the name of your station?	The name of my stations is . . .	QSY	Shall I change to transmission on another frequency?	Change to transmission on another frequency [or on . . . kc/s (or Mc/s)].
QRB	How far approximately are you from my station?	The approximate distance between our stations is . . . nautical miles (or kilometres)	QSZ	Shall I send each word or group more than once?	Send each word or group twice (or . . . times).
QRD	Where are you bound and where are you from?	I am bound for . . . from . . .	QTA	Shall I cancel telegram number . . . as if it had not been sent?	Cancel telegram number . . . as if it had not been sent.
QRG	Will you tell me my exact frequency or that of . . . ?	Your exact frequency (or that of . . . is . . . kc/s (or Mc/s).	QTB	Do you agree with my counting of words?	I do not agree with your counting of words; I will repeat the first letter or digit of each word or group.
QRH	Does my frequency vary?	Your frequency varies.	QTC	How many telegrams have you to send?	I have . . . telegrams for you (or for . . .).
QRI	How is the tone of my transmission?	The tone of your transmission is . . . (1. Good; 2. Variable; 3. Bad).	QTE	What is my TRUE bearing from you? What is my TRUE bearing from . . . (call sign)? What is the TRUE bearing of . . . (call sign) from . . . (call sign)?	Your TRUE bearing from me is . . . degrees (at . . . hours) or Your TRUE bearing from . . . (call sign) was . . . degrees (at hours) or The TRUE bearing of . . . (call sign) from . . . (call sign) was . . . degrees at . . . hours).
QRK	What is the readability of my signals (or those of . . .)?	The readability of your signals (or those of . . .) is . . . (1. Unreadable; 2. Readable now and then; 3. Readable, but with difficulty; 4. Readable; 5. Perfectly readable).	QTH	What is your position in latitude and longitude (or according to any other indication)?	My position is . . . latitude . . . longitude (or according to any other indication).
QRL	Are you busy?	I am busy (or I am busy with . . .). Please do not interfere.	QTI	What is your TRUE track?	My TRUE track is . . . degrees.
QRM	Are you being interfered with?	I am being interfered with.	QTL	What is your TRUE heading?	My TRUE heading is . . . degrees.
QRN	Are you troubled by static?	I am troubled by static.	QTN	At what time did you depart from . . . (place)?	I departed from . . . (place) at . . . hours.
QRO	Shall I increase power?	Increase power.	QTO	Have you left dock (or port)? Are you airborne?	I have left dock (or port) or I am airborne.
QRP	Shall I decrease power?	Decrease power.	QTP	Are you going to enter dock (or port)? Are you going to alight (or land)?	I am going to enter dock (or port) or I am going to alight (or land).
QRQ	Shall I send faster?	Send faster (. . . words per minute).	QTR	What is the correct time?	The correct time is . . . hours.
QRR	Are you ready for automatic operation?	I am ready for automatic operation. Send at . . . words per minute.	QTS	Will you send your call sign for . . . minute(s) now (or at . . . hours) [on . . . kc/s (or Mc/s)] so that your frequency may be measured?	I will send my call sign for . . . minute(s) now (or at . . . hours) [on . . . kc/s (or Mc/s)] so that my frequency may be measured.
QRS	Shall I send more slowly?	Send more slowly (. . . words per minute).	QTU	What are the hours during which your station is open?	My station is open from . . . to . . . hours.
QRT	Shall I stop sending?	Stop sending.	QTV	Shall I stand guard for you on the frequency of . . . kc/s (or Mc/s) (from . . . to . . . hours)?	Stand guard for me on the frequency of . . . kc/s (or Mc/s) (from . . . to . . . hours).
QRU	Have you anything for me?	I have nothing for you.	QTX	Will you keep your station open for further communication with me until further notice (or until . . . hours)?	I will keep my station open for further communication with you until further notice (or until . . . hours).
QRV	Are you ready?	I am ready.	QUA	Have you news of . . . (call sign)?	Here is news of . . . (call sign).
QRW	Shall I inform . . . that you are calling him on . . . kc/s (or Mc/s).	Please inform . . . that I am calling him on . . . kc/s (or Mc/s).	QUB	Can you give me, in the following order, information concerning: visibility, height of clouds, direction and velocity of ground wind at . . . (place of observation)?	Here is the information requested . . .
QRX	When will you call me again?	I will call you again at . . . hours [on . . . kc/s (or Mc/s)].	QUC	What is the number (or other indication) of the last message you received from me [or from (call sign)]?	The number (or other indication) of the last message I received from you [or from . . . (call sign)] is . . .
QRY	What is my turn?	Your turn is Number . . . (Relates to communication.)	QUD	Have you received the urgency signal sent by . . . (call sign of mobile station)?	I have received the urgency signal sent by . . . (call sign of mobile station) at . . . hours.
QRZ	Who is calling me?	You are being called by . . . [on . . . kc/s (or Mc/s)].	QUF	Have you received the distress signal sent by . . . (call sign of mobile station)?	I have received the distress signal sent by . . . (call sign of mobile station) at . . . hours.
QSA	What is the strength of my signals (or those of . . .)?	The strength of your signals (or those of . . .) is . . . (1. Scarcely perceptible; 2. Weak; 3. Fairly good; 4. Good; 5. Very good).	QUG	Will you be forced to alight (or land)?	I am forced to alight (or land immediately. or I shall be forced to alight (or land) at . . . (position or place).
QSB	Are my signals fading?	Your signals are fading.	QUH	Will you give me the present barometric pressure at sea level?	The present barometric pressure at sea level is . . . (units).
QSD	Is my keying defective?	Your keying is defective.			
QSG	Shall I send . . . telegrams at a time?	Send . . . telegrams at a time.			
QSI	What is the charge to be collected per word to . . . including your internal telegraph charge?	The charge to be collected per word to . . . including my internal telegraph charge is . . . francs.			
JSK	Can you hear me between your signals?	I can hear you between my signals.			
QSL	Can you acknowledge receipt?	I am acknowledging receipt.			
QSM	Shall I repeat the last telegram which I sent you, or some previous telegram?	Repeat the last telegram which you sent me [or telegram(s) number(s) . . .].			
QSN	Did you hear me [or . . . (call sign)] on . . . kc/s (or Mc/s)?	I did hear you [or . . . (call sign) on . . . kc/s (or Mc/s).			
QSO	Can you communicate with . . . direct or by relay?	I can communicate with . . . direct (or by relay through . . .).			
QSP	Will you relay to . . . free of charge?	I will relay to . . . free of charge.			
QSQ	Have you a doctor on board [or is . . . (name of person) on board]?	I have a doctor on board [or . . . name of person) is on board].			
QSU	Shall I send or reply on this frequency [or on . . . kc/s (or Mc/s)] (with emissions of class . . .)?	Send or reply on this frequency [or on . . . kc/s (or Mc/s)] (with emissions of class . . .).			
QSV	Shall I send a series of V's on this frequency [or . . . kc/s (or Mc/s)]?	Send a series of V's on this frequency [or . . . kc/s (or Mc/s)].			
QSW	Will you send on this frequency [or on . . . kc/s (or Mc/s)] (with emissions of class . . .)?	I am going to send on this frequency [or on . . . kc/s (or Mc/s)] (with emissions of class . . .).			

from **CARTON** to **CONTACT** in **47** minutes!

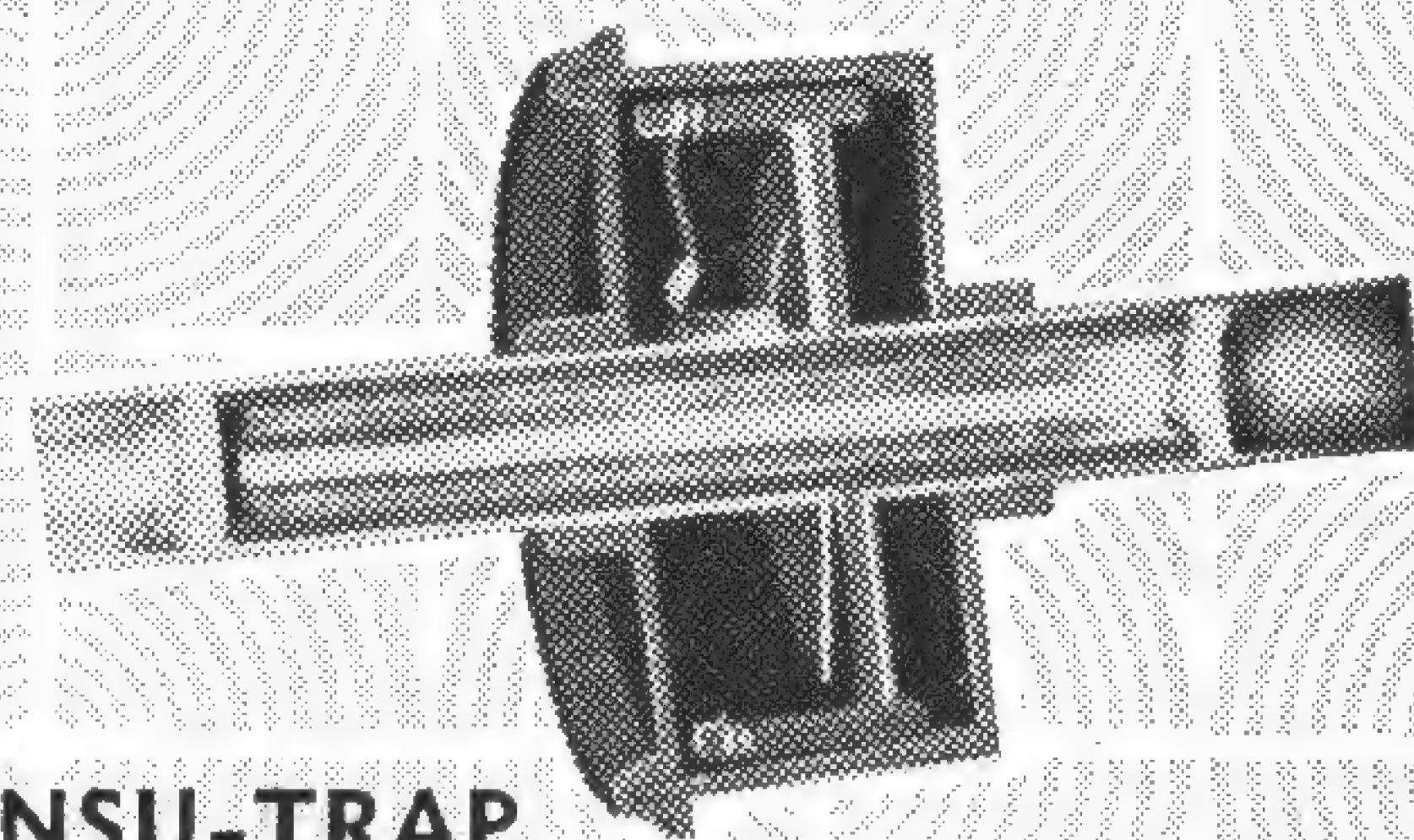
WITH THESE POWERFUL

Hy-gain

TRAP VERTICALS

MODEL 14-AV

The Model 14-AV is only 21 feet high and weighs just 13 pounds. It incorporates the exclusive Hy-Gain capacity hat assembly which increases the electrical length of the antenna maintaining high efficiency on 40 meters.



INSU-TRAP

Acting as an insulator at resonant frequencies but allowing radio energies of other frequencies to pass freely the Hy-Gain Insu-Trap becomes an automatic electronic switch which isolates various sections of the vertical to make it the proper length for each band. Hy-Gain Traps use exclusive adjustable capacitor plates and are individually factory resonated maintaining a high degree of efficiency. Each trap is completely weatherproof and air tight. No water or condensation can ever enter. Enclosed in carbon activated polyethylene cover and cap assembly the Hy-Gain Insu-Trap is rated to take the full maximum legal input power. Traps are only 2x3", weighing just 8 oz. each.

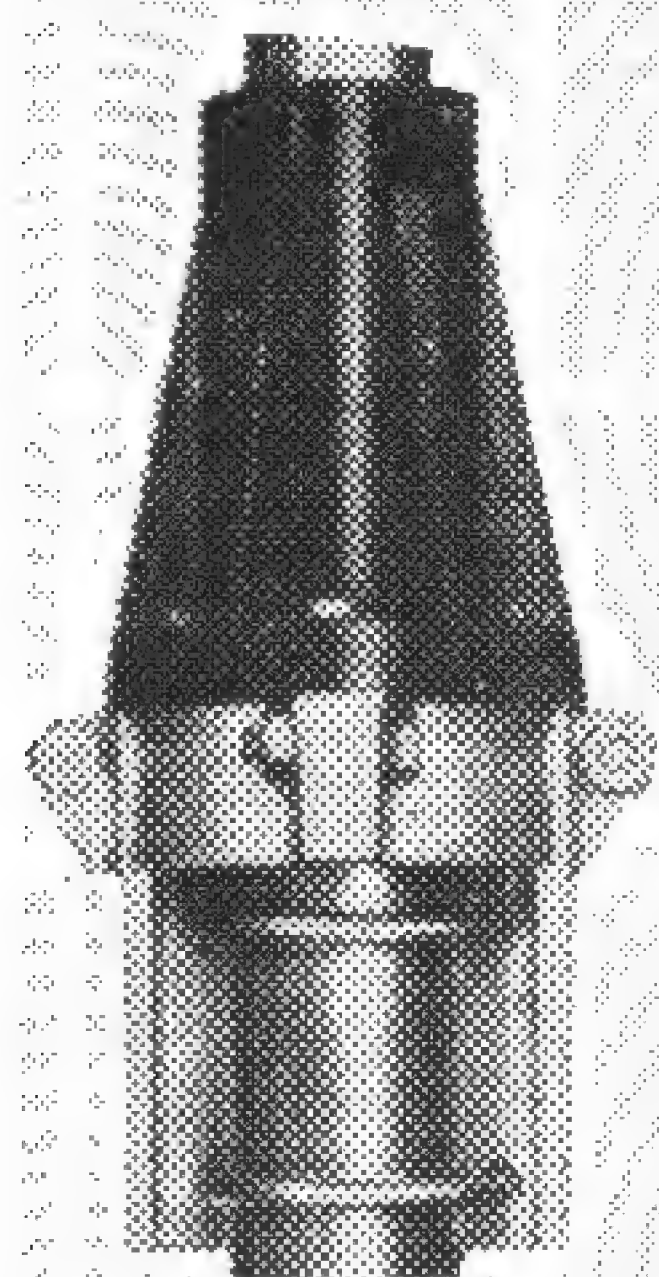
the Self
Supporting
14-AV

\$27⁹⁵



for 6*, 10, 15, 20 & 40 M

NYLON BASE MOUNT



Fiber Glass impregnated nylon base assembly makes possible self support. Heavy cast aluminum mounting bracket is adjustable for various sizes of mast. Weather-proof internal coaxial fitting supplied.

*Available as an accessory, the specially designed decoupling stub adds 6 meter operation with low SWR to Models 12 or 14-AV.

Order Model 6MK, \$4.95 Ham Net.

MODEL 12-AV

The Model 12-AV is only 13.5 feet high and weighs just 12 pounds.

Combination mast and radial roof mounting kit complete with hardware, \$8.95 Ham Net.



the Self
Supporting
12-AV

\$19⁹⁵

for 6*, 10, 15 & 20 M

hy-gain antenna products - 1135 no. 22nd - lincoln, nebraska

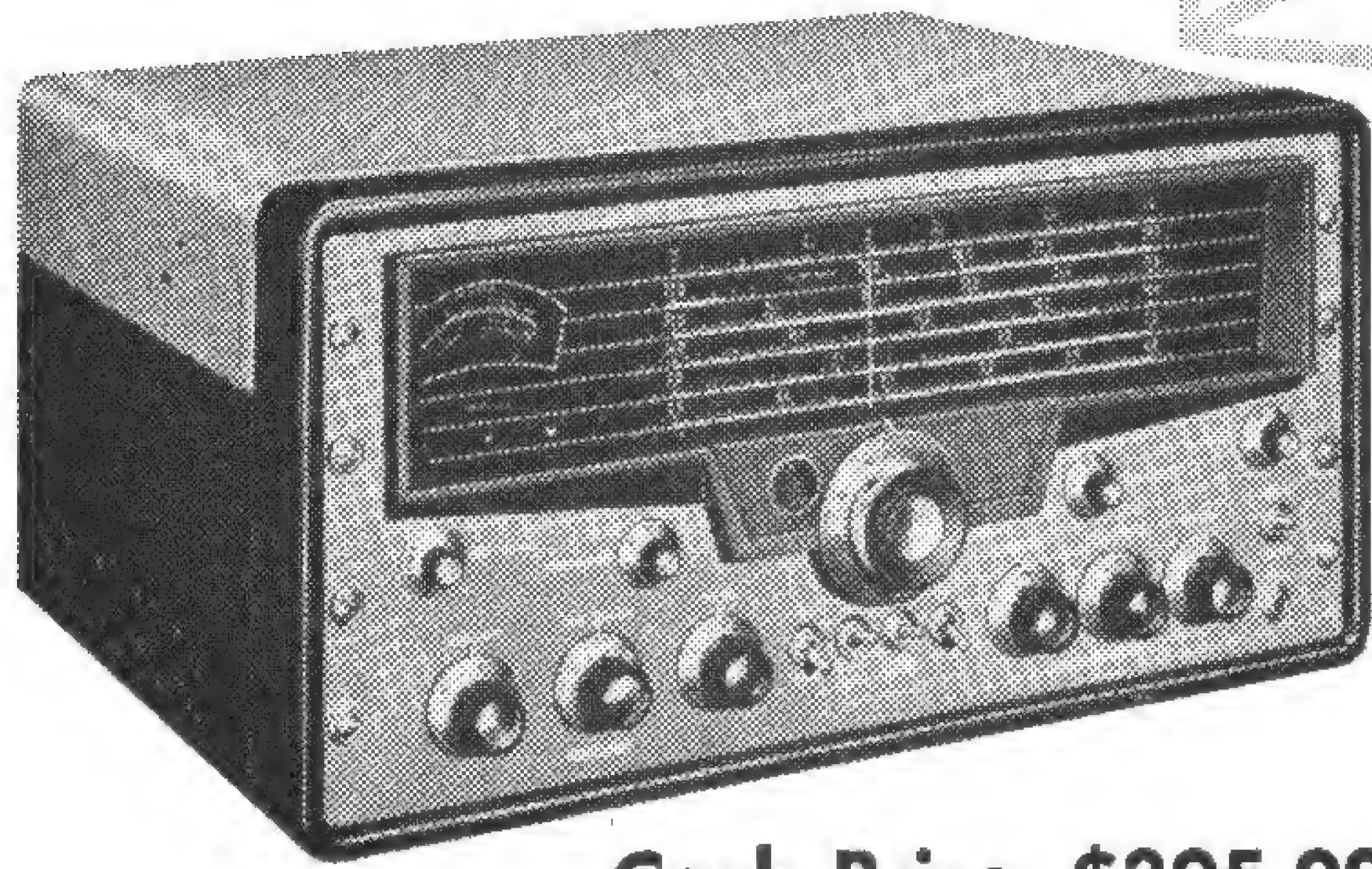
WORLD TIME CONVERSION CHART IN HOURS

Greenwich Meridian Time, London, Eng- land.	Central Europe, Ber- lin, Geneva, Stock- holm, Vienna.	Eastern Europe, Ath- ens, Cape Town, Cairo, Moscow	Arabia, Armenia, Af- ganistan, Madagascar.	Mauritius, Persia, Reunion Island.	Central Russia, Bom- bay, India.	Calcutta, Novosi- birsk, Russia, Tibet.	French Indo China, Siam, Sumatra.	Philippine Islands, Perth, Australia.	Central Australia, Tokyo, Japan.	Eastern Australia, Melbourne, Sydney.	New Zealand, New Caledonia.	International Date Line.	Fiji Islands.	Norfolk Island, Hawaii Islands.	Eastern Alaska, Dawson, Juneau.	Pacific Standard Time, Los Angeles, Seattle.	Mountain Standard Time, Calgary, Phoenix, Denver, Chicago, Costa Rica.	Central Standard Time, Chicago, Costa Rica.	Eastern Standard Time, Montreal, New York, Peru.	Atlantic Standard Time, Argentina, Nova Scotia.	Greenland, Rio de Janeiro, Brazil.	Azores.	Iceland, Canary Islands.
0000	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
0100	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night
0200	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM
0300	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM
0400	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM
0500	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM
0600	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM
0700	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM
0800	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM
0900	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM
1000	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM
1100	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM
1200	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM
1300	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon
1400	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM
1500	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM
1600	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM
1700	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM
1800	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM
1900	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM
2000	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM
2100	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM
2200	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM
2300	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM

With this chart you can convert standard time in any time zone to GMT or tell what time it is in other parts of the world. To correctly use this chart visualize each horizontal line as a complete circle. From your time zone tracing horizontally to the right (Counter Clockwise) it will be tomorrow when you pass midnight and yesterday when you pass the international date line. To the left (Clockwise) it will be yesterday when you pass midnight and tomorrow when you pass the international date line. There is no change in date when you pass both midnight and the international date line going in one direction. For instance at 8 PM in New York Eastern Standard Time it is 2 AM tomorrow in Berlin, Germany and 11 AM tomorrow in Sydney, Australia. Always trace in the shortest direction from your time zone to find what time it is in any other zone. Copyright 1938 Radio Amateur Call Book, Inc., Chicago, USA.

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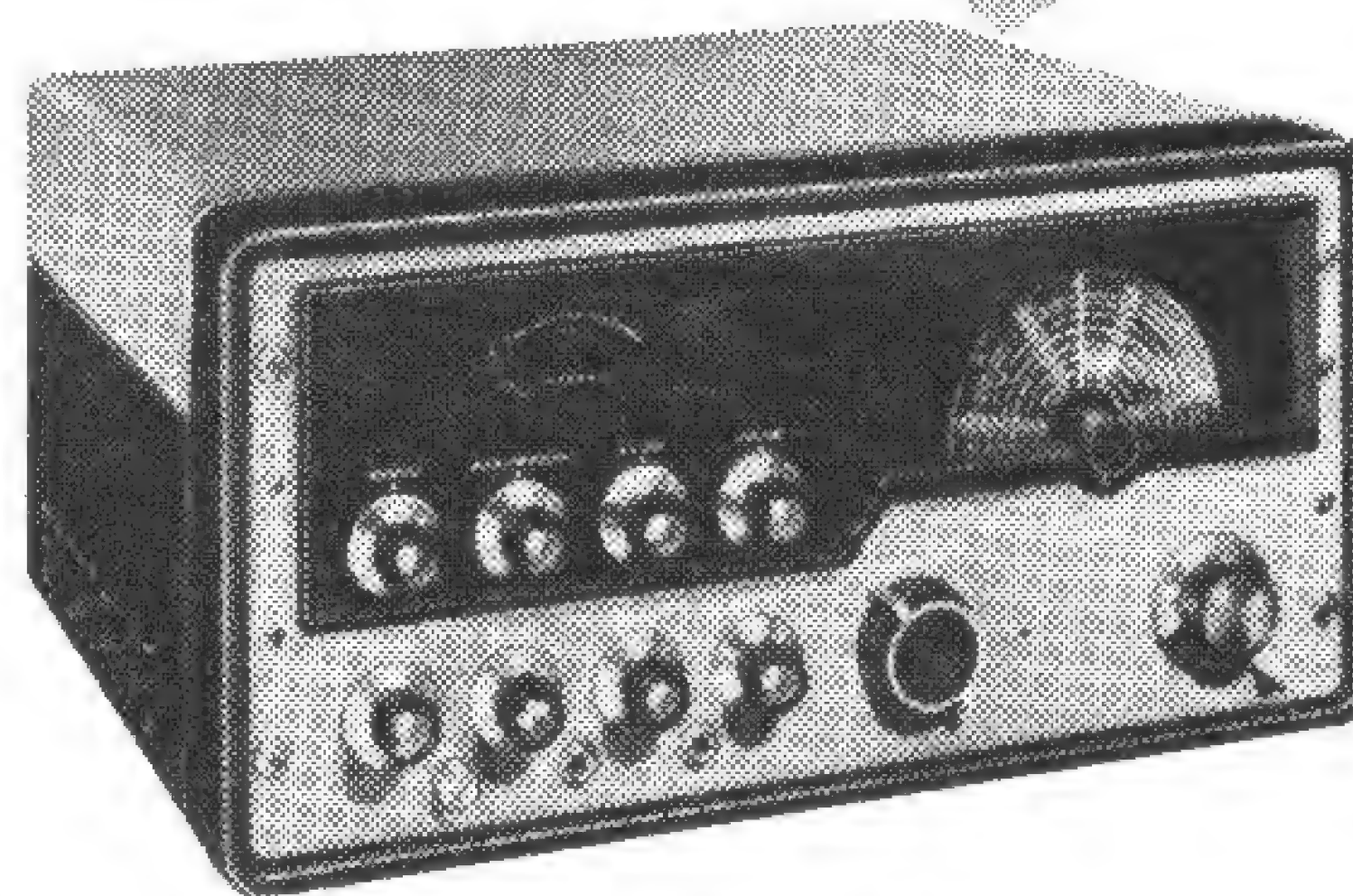
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CHICAGO, ILLINOIS

The table below shows the great circle bearing in degrees from the point as indicated above to countries throughout the world having licensed radio amateurs. Where cities are shown the bearing to the nearest degree is given. These bearings were compiled from information supplied by the U.S. Coast and Geodetic Survey.

Prefix	Country	Bearing	Prefix	Country	Bearing	Prefix	Country	Bearing
AC3	SIKKIM	3	KM6	MIDWAY ISLAND	290	VK6	Perth	291
AC4	TIBET, Lhasa	1	KP4	PUERTO RICO	123	VK7	TASMANIA, Hobart	248
AG2	TRIESTE	48	KP6	PALMYRA ISLAND	264	VK9	NORFOLK ISLAND	254
AP	PAKISTAN, Karachi	25	KR6	OKINAWA ISLAND	327		PAPUA TERRITORY, Port Moresby	287
C	CHINA, Chungking	348	KS4	SWAN ISLAND	173	VO	NEWFOUNDLAND, St. John's	65
	Pekin	342	KS6	SAMOA	255	VP1	BRITISH HONDURAS	181
	Shanghai	335	KV4	VIRGIN ISLANDS	133	VP2	LEEWARD and WINDWARD ISLANDS	133
CE	CHILE, Santiago	166	KW6	WAKE ISLAND	294	VP3	BRITISH GUIANA, Georgetown	135
CM	CUBA, Havana	165	KX6	MARSHALL ISLANDS	285	VP4	TRINIDAD	135
CN2	TANGIER ZONE	66	KZ5	CANAL ZONE	168	VP5	JAMAICA	162
CN8	FRENCH MOROCCO, Casablanca	69	LA	NORWAY, Oslo	36	VP6	BARBADOS ISLANDS	131
CP	BOLIVIA, La Paz	158	LI	LIBYA, Tripoli	58	VP7	BAHAMAS ISLANDS	150
CR4	CAPE VERDE ISLANDS	96	LU	ARGENTINA, Buenos Aires	156	VP8	FALKLAND ISLANDS	155
CR5	PORTUGUESE GUINEA	93	LX	LUXEMBOURG	48		South Georgia Island	142
CR6	ANGOLA, Nova Lisboa	92	LZ	BULGARIA, Sofia	46		South Orkney Islands	140
CR7	MOZAMBIQUE, Lourenco Marques	92	MB9	AUSTRIA, Vienna	45	VP9	BERMUDA	112
	Mocambique	75	MD1	CIRENAICA	54	VQ1	ZANZIBAR	69
CR8	GOA	22	MD2	TRIPOLITANIA	59	VQ2	NORTHERN RHODESIA, Lusaka	86
CR9	MACAU	340	MD3	ERITREA, Asmara	53	VQ3	TANGANYIKA, Dar-Es-Salaam	70
CR10	TIMOR ISLAND	319	MD4	BRITISH SOMALILAND	51	VQ4	KENYA, Nairobi	68
CT1	PORTUGAL, Lisbon	65	MD5	SUEZ CANAL ZONE	49	VQ5	UGANDA	70
CT2	AZORES	74	MD6	IRAQ, Baghdad	39	VQ6	BRITISH SOMALILAND	52
CT3	MADERIA ISLANDS	75	MF2	TRIESTE (British)	48	VQ8	CHAGOS ISLANDS	34
CX	URUGUAY, Montevideo	154	MI3	ERITREA, Asmara	53		Mauritius	66
DL	GERMANY, Berlin	42	MP4	BAHREIN ISLANDS and OMAN	38	VQ9	SEYCHELLES	53
DU	PHILIPPINE ISLANDS, Manila	328	OA	PERU, Lima	167	VR1	GILBERT ISLANDS	255
EA	SPAIN, Madrid	60	OD5	LEBANON, Beyrouth	44	VR2	FIJI ISLANDS	259
EA6	BALEARIC ISLANDS	58	OH	FINLAND, Helsinki	31	VR3	FANNING ISLAND	262
EA8	CANARY ISLANDS	79	OE	AUSTRIA, Vienna	45	VR4	SOLOMON ISLANDS	280
EA9	SPANISH MOROCCO	67	OK	CZECHOSLOVAKIA, Prague	44	VR5	TONGA ISLANDS	253
EI	IRELAND, Dublin	48	ON	BELGIUM, Brussels	47	VR6	PITCAIRN ISLAND	220
EL	LIBERIA, Monrovia	94	OQ5	BELGIAN CONGO, Elisabethville	82	VS	MALAYA, Singapore	343
EP	IRAN, Tehran	32		Leopoldville	85	VS4	BRITISH NORTH BORNEO	327
ET	ETHIOPIA, Addis Ababa	58		Stanleyville	74	VS5	BRUNEI and SARAWAK	330
F	FRANCE, Paris	50	OX	GREENLAND, Godthaab	31	VS6	HONG KONG	338
FA	ALGERIA, Algiers	61	OY	FAEROES ISLANDS	38	VS7	CEYLON	16
FB8	MADAGASCAR, Tananarive	74	OZ	DENMARK, Copenhagen	39	VS9	ADEN, Aden	49
FC	CORSICA	53	PA	NETHERLANDS, Amsterdam	45	VU	INDIA, Bombay	22
FD8	TOGOLAND	85	PK	JAVA, Batavia	335		Calcutta	15
FE8	FRENCH CAMEROONS	80	PK4	SUMATRA	347		Delhi	21
FF8	FRENCH WEST AFRICA, Dakar	92	PK5	BORNEO	329	VU4	LACCADIVE ISLANDS	25
FG8	GAUDELOUPE	132	PK6	CELEBES ISLAND	320	VU5	ANDAMAN ISLANDS	359
FI8	FRENCH INDO CHINA, Saigon	343	PK7	NETHERLAND NEW GUINEA	299	XE	MEXICO, Mexico City	207
FK8	NEW CALEDONIA, Noumea	264	PX	ANDORRA	56	XZ	BURMA, Rangoon	355
FL8	FRENCH SOMALILAND, Djibouti	53	PY	BRAZIL, Natal	122	YA	AFGHANISTAN, Kandahar	23
FM8	MARTINIQUE	132		Rio de Janeiro	138	YI	IRAQ, Baghdad	38
FO8	FRENCH OCEANIA, Tahiti	239	PZ	SURINAM, (Netherland Guiana)	133	YJ	NEW HEBRIDES	266
FP8	MIQUELON and St. PIERRE IS.	68	SM	SWEDEN, Stockholm	34	YK	SYRIA	42
FQ8	FRENCH EQUATORIAL AFRICA	77	SP	POLAND, Warsaw	39	YN	NICARAGUA, Managua	178
FR8	REUNION ISLAND	65	ST	ANGLO-EGYPTIAN SUDAN, Khartoum	58	YO	ROMANIA, Bucharest	43
FT4	TUNISIA, Tunis	57	SU	Egypt, Cairo	49	YS	SALVADOR, San Salvador	182
FU8	NEW HEBRIDES	264	SV	GREECE, Athens	49	YT	YUGOSLAVIA, Belgrade	46
FY8	FRENCH GUIANA, Cayenne	130	SV5	DODECANESE ISLANDS	49	YV	VENEZUELA, Caracas	145
G	ENGLAND, London	48	TA	TURKEY, Ankara	42	ZA	ALBANIA, Tirana	49
GC	CHANNEL ISLANDS	50	TF	ICELAND, Reykjavik	36	ZB1	MALTA	56
GD	ISLE OF MAN	47	TG	GUATEMALA, Guatemala City	186	ZB2	GIBRALTAR	67
GI	NORTHERN IRELAND, Belfast	47	TI	COSTA RICA	173	ZC1	TRANSJORDAN	47
GM	SCOTLAND, Glasgow	45	TR	LIBYA, Tripoli	59	ZC2	COCOS ISLANDS	350
GW	WALES	49	TT	TANNU TUA, Kyzyl Khot	358	ZC3	CHRISTMAS ISLAND	335
HA	HUNGARY, Budapest	44	U	SOVIET UNION, Moscow	29	ZC4	CYPRUS	44
HB	SWITZERLAND, Bern	49	UB5	UKRAINE	36	ZD1	SIERRA LEONE, Freetown	94
HC	ECUADOR, Quito	167	UC5	WHITE RUSSIA	35	ZD2	NIGERIA, Lagos	84
HC8	GALAPAGOS ISLANDS	185	UD6	AZERBAIJAN	31	ZD3	GAMBIA	92
HE1	LEICHTENSTEIN	49	UF6	GEORGIA	36	ZD4	GOLD COAST, Accra	88
HH	HAITI, Port-au-Prince	145	UG6	ARMENIA	37	ZD6	NYASALAND	81
HI	DOMINICAN REPUBLIC	139	UH8	TURKOMAN	26	ZD7	ST. HELENA	109
HK	COLOMBIA, Bogota	158	UI8	UZBEK	19	ZD8	ASENCION ISLAND	107
HL1	KOREA, Seoul	334	UJ8	TADZHIK	17	ZD9	TRISTAN da CUNHA	112
HP	PANAMA	168	UL7	KAZAKH	14	ZE	SOUTHERN RHODESIA, Salisbury	86
HR	HONDURAS, Tegucigalpa	181	UM8	KIRGHIZ	12	ZK1	COOK ISLANDS	246
HS	SIAM, Bangkok	351	UN1	KARELO-FINNISH REPUBLIC	29	ZK2	NIUE	251
HV	VATICAN CITY	51	UO5	MOLDAVIA	39	ZL1	NEW ZEALAND, Auckland	245
HZ	SAUDI ARABIA, Mecca	49	UP	LITHUANIA	35	ZL2	Wellington	240
I	ITALY, Rome	51	UQ	LATVIA	34	ZL3	Christchurch	238
IS	SARDINIA	55	UR	ESTONIA	32	ZL4	Dunedin	237
JA	JAPAN, Tokyo	323	VE1	CANADA, Halifax	73	ZM6	SAMOA (British)	255
KB6	BAKER ISLAND	270	VE2	Montreal	66	ZP	PARAGUAY, Asuncion	152
KC6	CAROLINE ISLANDS	297	VE3	Toronto	71	ZS	UNION OF SOUTH AFRICA, Capetown	108
KG4	GUANTANAMO BAY, Cuba	150	VE4	Winnipeg	324		Durban	98
KG6	GUAM	306	VE5	Saskatoon	317		Johannesburg	95
KG6I	IWO JIMA ISLAND	317	VE6	Edmonton	315	ZS3	SOUTH WEST AFRICA, Windhoek	99
KG6S	SAIPAN ISLAND	307	VE7	Vancouver	300	ZS7	SWAZILAND	94
KG6T	TINIAN ISLAND	307	VE8	Fort Nelson	321	ZS8	BASUTOLAND	99
KH6	HAWAIIAN ISLANDS, Honolulu	274	VK1	HEARD ISLAND	137	ZS9	BECHUANALAND	94
KJ6	JOHNSTON ISLAND	278	VK2	AUSTRALIA, Sydney	260	3A2	MONACO	53
KL7	ALASKA, Anchorage	320	VK3	Melbourne	257	3V8	TUNISIA, Tunis	57
	Fairbanks	326	VK4	Brisbane	266	4X4	ISRAEL	47
			VK5	Darwin	298	5A2	LIBYA	57
						9S4	SAARLAND	48

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This is probably the biggest value available today for the man who likes to make and do things in radio, Hi-Fi and television. It now offers the very latest edition of the world famous White's Radio Log, a complete directory of U.S. and Canadian AM-FM-TV Stations, as well as over 800 of the World-Wide Short-Wave Stations picked up frequently.

Other important articles and build-it-yourself projects include How to Build a Spit-Powered Oscillator, How to Select the Right Tape Re-

corder, How to Build a Signal Tracing Troubleshooter, How to Wire and Install an Instant-Ready Intercom, How to Make an Experimenter's Test Bench, and much more.

There are how-to pictures, circuit and wiring diagrams galore—enough to keep you happily busy the year 'round. And though the title of this paper-back volume doesn't mention it, there are several interesting and informative Hi-Fi articles, too! How can you miss, when it's all yours for only 75c at newsstands?

QUICK REFERENCE INDEX TO **WHITE'S RADIO LOG**

- U.S. AM Broadcasting Stations
Listed Alphabetically by Call Letters
- Canadian AM Broadcasting Stations
Listed Alphabetically by Call Letters
- U.S. and Canadian AM Stations
Grouped According to Frequency
- U.S. and Canadian AM Stations
Listed Alphabetically by Location
- World-Wide Short-Wave Stations
Listed by Frequency
- Canadian Short-Wave Stations
Listed by Frequency
- U.S. FM Broadcasting Stations
Listed Alphabetically by Location
- Canadian FM Broadcasting Stations
Listed Alphabetically by Location
- U.S. Television Stations
Listed Alphabetically by Location
- Canadian Television Stations
Listed Alphabetically by Location

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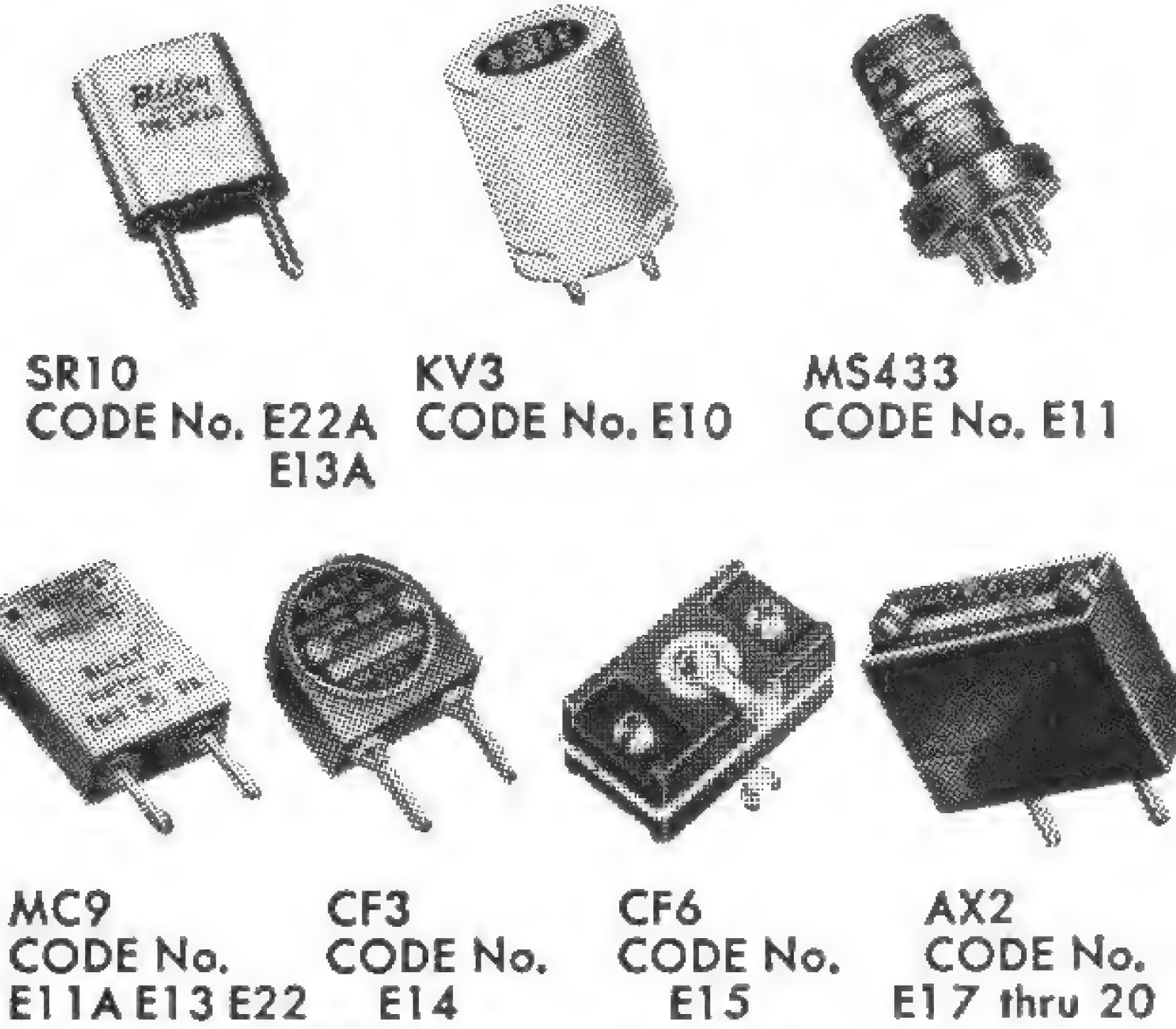
LOS ANGELES, CALIFORNIA

The table below gives the great circle bearings in degrees from Los Angeles, California to countries throughout the world having licensed radio amateurs. Where cities are shown the bearing to the nearest degree is shown. These bearings were compiled from information furnished by the U. S. Coast and Geodetic Survey.

Prefix	Country	Bearing	Prefix	Country	Bearing	Prefix	Country	Bearing
AC3	SIKKIM	334	KM6	MIDWAY ISLAND	281	VK6	Perth	256
AC4	TIBET, Lhasa	333	KP4	PUERTO RICO	94	VK7	TASMANIA, Hobart	234
AG2	TRIESTE	30	KP6	PALMYRA ISLAND	245	VK9	NORFOLK ISLAND	235
AP	PAKISTAN, Karachi	354	KR6	OKINAWA ISLAND	304		PAPUA TERRITORY, Port Moresby	267
C	CHINA, Chungking	322	KS4	SWAN ISLAND	110	VO	NEWFOUNDLAND, St. John's	52
	Pekin	322	KS6	SAMOA	236	VP1	BRITISH HONDURAS	113
	Shanghai	312	KV4	VIRGIN ISLANDS	94	VP2	LEEWARD and WINDWARD ISLANDS	95
CE	CHILE, Santiago	141	KW6	WAKE ISLAND	278	VP3	BRITISH GUIANA, Georgetown	100
CM	CUBA, Havana	100	KX6	MARSHALL ISLANDS	265	VP4	TRINIDAD	99
CN2	TANGIER ZONE	48	KZ5	CANAL ZONE	105	VP5	JAMAICA	102
CN8	FRENCH MOROCCO, Casablanca	51	LA	NORWAY, Oslo	24	VP6	BARBADOS ISLANDS	95
CP	BOLIVIA, La Paz	128	LI	LIBYA, Tripoli	65	VP7	BAHAMAS ISLANDS	92
CR4	CAPE VERDE ISLANDS	74	LU	ARGENTINA, Buenos Aires	135	VP8	FALKLAND ISLANDS	135
CR5	PORTUGUESE GUINEA	73	LX	LUXEMBOURG	33		South Georgia Island	140
CR6	ANGOLA, Nova Lisboa	75	LZ	BULGARIA, Sofia	28		South Orkney Islands	130
CR7	MOZAMBIQUE, Lourenco Marques	81	MB9	AUSTRIA, Vienna	30	VP9	BERMUDA	77
	Mozambique	52	MD1	CIRENAICA	36	VQ1	ZANZIBAR	42
CR8	GOA	346	MD2	TRIPOLITANIA	40	VQ2	NORTHERN RHODESIA, Lusaka	67
CR9	MACAU	312	MD3	ERITREA, Asmara	28	VQ3	TANGANYIKA, Dar-Es-Salaam	44
CR10	TIMOR ISLAND	277	MD4	BRITISH SOMALILAND	23	VQ4	KENYA, Nairobi	40
CT1	PORTUGAL, Lisbon	48	MD5	SUEZ CANAL ZONE	27	VQ5	UGANDA	44
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JA	JAPAN, Tokyo	306	VE1	CANADA, Halifax	59	ZM6	SAMOA (British)	236
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KG6S	SAIPAN ISLAND	284	VE7	Vancouver	348	ZS7	SWAZILAND	84
KG6T	TINIAN ISLAND	284	VE8	Fort Nelson	354	ZS8	BASUTOLAND	92
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			VK5	Darwin	270	5A2	LIBYA	39
						9S4	SAARLAND	32

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140	1244	937	697	353	1229	587	554	194	721	1212	739	596	1291	1697	701	426	285	676	456	1936	319	604	668	907	214	424	748	505	666	1592	521	467	1583	2139	2182	543	371		
BIRMINGHAM, ALA.	140	1174	1052	776	442	1119	578	618	334	581	1095	670	641	1152	1602	567	433	374	579	325	1802	331	665	659	862	182	312	864	638	783	1456	608	400	1466	2013	2082	661	512	
BISMARCK, N. D.	1244	1174		1489	1106	1133	440	734	1014	1359	990	531	506	926	1081	534	1211	881	1529	618	943	1267	965	1838	682	384	1030	1297	1396	1430	1367	1095	1127	779	694	1265	1013	1318	1474
BOSTON, MASS.	937	1052	1489		400	622	1735	851	551	791	1551	1769	1159	613	2072	2024	1605	807	1017	1251	1259	2596	826	1255	857	1123	943	1359	188	471	271	2300	483	1038	2099	2699	2493	393	673
BUFFALO, NEW YORK	697	776	1106	400		344	1335	454	173	623	1198	1370	760	216	1692	1640	1286	435	879	861	913	2198	483	1181	458	731	627	1086	292	947	279	1906	178	662	1699	2300	2117	292	598
CHARLESTON, W. VA.	353	442	1133	622	344		1246	400	217	302	935	1256	673	284	1475	1642	984	262	553	701	642	2054	225	870	461	755	322	754	440	311	365	1733	168	465	1616	2205	2132	253	350
CHEYENNE, WYOMING.	1229	1119	440	1735	1335	1246		891	1199	1390	726	96	583	1125	653	521	947	986	1493	560	813	882	1033	1763	878	642	1032	1131	1604	1556	1556	663	1298	795	371	967	973	1477	1540
CHICAGO, ILLINOIS	587	578	734	851	454	400	891		308	652	803	920	309	238	1252	1248	940	165	863	414	552	1745	269	1188	81	355	397	833	713	699	666	1453	410	262	1260	1858	1737	597	745
CLEVELAND, OHIO	554	618	1014	551	173	217	1199	308		518	1025	1227	617	90	1525	1541	1114	263	770	700	740	2049	311	1087	335	630	459	924	405	432	360	1749	115	492	1568	2166	2026	306	541
COLUMBIA, S. C.	194	334	1359	791	623	302	1390	652	518		914	1380	863	585	1484	1837	891	489	256	830	644	2123	395	569	726	998	358	599	605	332	523	1781	448	603	1751	2317	2326	405	178
DALLAS, TEXAS	721	581	990	1551	1198	935	726	803	1025	914		663	632	999	572	1247	225	763	908	451	293	1240	726	1111	857	862	617	443	1374	1196	1299	887	1070	547	999	1483	1681	1185	1091
DENVER, COLORADO	1212	1095	531	1769	1370	1256	96	920	1227	1380	663		610	1156	557	591	879	1000	1467	558	780	831	1038	1726	914	700	1023	1082	1631	1566	1579	586	1320	796	371	949	1021	1494	1537
DES MOINES, IOWA	739	670	506	1159	760	673	583	309	617	863	632	610		546	983	977	821	411	1023	180	478	1438	476	1333	309	235	525	827	1022	983	973	1155	715	273	953	1550	1467	896	993
DETROIT, MICHIGAN	596	641	926	613	216	284	1125	238	90	585	999	1156	546		1479	1455	1105	240	831	645	723	1983	316	1152	252	543	470	939	482	522	443	1690	205	455	1492	2091	1938	396	623
EL PASO, TEXAS	1291	1152	1081	2072	1692	1475	653	1252	1484	572	557	983	1479		1065	676	1264	1473	839	847	701	1254	1643	1279	1157	1169	983	1905	1755	1836	346	1590	1034	689	995	1376	1728	1661	
HELENA, MONTANA	1697	1602	534	2024	1640	1642	521	1248	1541	1837	1247	591	977	1455	1065		1467	1382	1973	1023	1315	924	1453	2260	1206	912	1488	1646	1929	1947	1897	907	1652	1236	403	807	490	1842	1969
HOUSTON, TEXAS	701	567	1211	1605	1286	984	947	940	1114	891	225	879	821	1105	676	1467		865	821	644	388	1374	803	968	1005	1056	665	318	1420	1204	1341	1017	1137	679	1200	1645	1891	1220	1066
INDIANAPOLIS, IND.	426	433	881	807	435	262	986	165	263	489	763	1000	411	240	1264	1382	865		699	453	483	1809	107	1024	243	511	251	712	646	573	585	1499	330	231	1356	1949	1872	494	593
JACKSONVILLE, FLA.	285	374	1529	1017	879	553	1493	863	770	256	908	1467	1023	831	1473	1973	821	699		950	690	2147	594	326	942	1191	499	504	838	546	758	1794	703	751	1837	2374	2455	647	346
KANSAS CITY, MISSOURI	676	579	618	1251	861	701	560	414	700	830	451	558	180	645	839	1023	644	453	950		325	1356	480	1241	443	413	473	680	1097	1009	1038	1049	781	238	925	1506	1506	945	981
LITTLE ROCK, ARK.	456	325	943	1259	913	642	813	552	740	644	293	780	478	723	847	1315	388	483	690	325		1480	435	949	618	708	325	355	1081	909	1007	1137	779	291	1148	1688	1785	892	818
LOS ANGELES, CALIF.	1936	1802	1267	2596	2198	2054	882	1745	2049	2123	1240	831	1438	1983	701	924	1374	1809	2147	1356	1480		1829	2339	1744	1524	1780	1673	2451	2355	2394	357	2136	1589	579	347	959	2300	2294
LOUISVILLE, KY.	319	331	965	826	483	225	1033	269	311	395	726	1038	476	316	1254	1453	803	107	594	480	435	1829		919	349	605	154	623	652	529	582	1508	344	242	1402	1986	1943	476	516
MIAMI, FLORIDA	604	665	1838	1255	1181	870	1763	1188	1087	569	1111	1726	1333	1152	1643	2260	968	1024	326	1241	949	2339	919		1267	1511	815	669	1092	797	1019	1982	1010	1061	2089	2594	2734	923	598
MILWAUKEE, WIS.	668	659	682	857	458	461	878	81	335	726	357	914	309	252	1279	1206	1005	243	942	443	618	1744	349	1267		299	478	910	733	749	694	1464	446	327	1242	1842	1692	637	810
MINNEAPOLIS, MINN.	907	862	384	1123	731	755	642	355	630	998	862	700	235	543	1157	912	1056	511	1191	413	708	1524	605	1511	299		697	1051	1018	1047	985	1280	743	466	987	1584	1395	934	1100
NASHVILLE, TENN.	214	182	1030	943	627	322	1032	397	459	358	617	1023	525	470	1169	1488	665	251	499	473	325	1780	154	815	478	697		469	761	586	685	1446	472	254	1393	1963	1975	589	517
NEW ORLEANS, LA.	424	312	1297	1359	1086	754	1131	833	924	599	443	1082	827	939	983	1646	318	712	504	680	355	1673	623	669	910	1051	469		1171	926	1089	1316	919	598	1434	1926	2101	966	769
NEW YORK, N. Y.	748	864	1396	188	292	440	1604	713	405	605	1374	1631	1022	482	1905	1929	1420	646	838	1097	1081	2451	652	1092	733	1018	761	1171		296	83	2145	317	875	1972	2571	2408	205	499
NORFOLK, VA.	505	638	1430	471	438	311	1556	699	432	332	1196	1566	983	522	1755	1947	1204	573	546	1009	909	2355	529	797	749	1047	586	926	296		222	2028	318	771	1927	2515	2436	146	203
PHILADELPHIA, PA.	666	783	1367	271	279	365	1556	666	523	1299	1579	973	443	1905	1836	1897	1341	585	758	1038	1007	2394	582	1019	694	985	685	1089	83	222		2083	259	811	1925	2523	2380	123	423
PHOENIX, ARIZONA	1592	1456	1095	2300	1906	1733	663	1453	1749	1781	887	586	1155	1690	346	907	1017	1499	1794	1049	1137	357	1508	1982	1464	1280	1446	1316	2145	2028	2083		1828	1272	504	653	1114	1983	1954
PITTSBURGH, PA.	521	608	1127	483	178	168	1298	410	115	448	1070	1320	715	205	1590	1652	1137	330	703	781	779	2136	344	1010	446	743	472	919	317	318	259	1828		559	1668	2264	2138	192	442
ST. LOUIS, MO.	467	400	779	1038	662	465	795	262	492	603	547	796	273	455	1034	1236	679	231	751	238	291	1589	242	1061	327	466	254	598	875	771	811	1272	559		1162	1744	1724	712	746
SALT LAKE CITY, UTAH	1583	1466	694	2099	1699	1616	371	1260	1568	1751	999	371	953	1492	689	403	1200	1356	1837	925	1148	579	1402	2089	1242	987	1393	1434	1972	1927	1925	504	1668	1162		600	701	1848	1906
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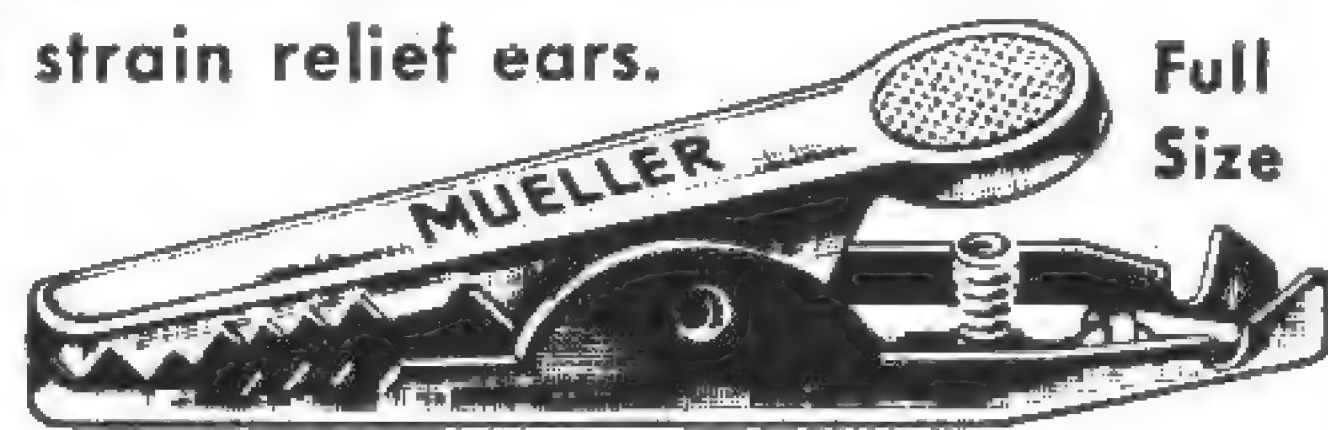
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HARVEY

Authorized Distributor



HARVEY's line of RCA tubes is so complete, that HARVEY can fill virtually any requirement... right from stock. This is important to amateurs who depend on tubes for continued operation of their rigs.

HARVEY also carries complete 'on-hand' stocks of transmitters, receivers, converters, and other ham equipment... ready for 'off-the-shelf' delivery to any part of the world.

**Write, Wire, or Phone for
Prompt Harvey Service**



**HARVEY
RADIO COMPANY, INC.**

103 W. 43rd St., New York 36, N. Y. • JU 2-1500

GREAT CIRCLE BEARINGS

CENTERED ON NEW YORK, N. Y.

The table below shows the great circle bearing in degrees from New York, N. Y., to countries throughout the world having licensed radio amateurs. Where cities are shown the bearing to the nearest degree is given. These bearings were compiled from information supplied by the U. S. Coast and Geodetic Survey.

Prefix	Country	Bearing	Prefix	Country	Bearing	Prefix	Country	Bearing
AG3	SIKKIM	17	KL7	ALASKA, Anchorage	321	VK3	Melbourne	262
AG4	TIBET, Lhasa	14		Fairbanks	327	VK4	Brisbane	274
AG2	TRIESTE	53	KM6	MIDWAY ISLAND	301	VK5	Darwin	315
AP	PAKISTAN, Karachi	36	KP4	PUERTO RICO, San Juan	160	VK6	Perth	315
AR8	LEBANON, Beyrouth	52	KP6	PALMYRA ISLAND	271	VK7	TASMANIA, Hobart	252
C	CHINA, Chungking	359	KR6	OKINAWA ISLAND	340	VK9	NORFOLK ISLAND	263
	Pekin	352	KS4	SWAN ISLAND	203		PAPUA TERRITORY, Port Moresby	299
	Shanghai	346	KS6	SAMOA	264	VO	NEWFOUNDLAND, St. John's	60
CE	CHILE, Santiago	177	KV4	VIRGIN ISLANDS	151	VP1	BRITISH HONDURAS	212
CM	CUBA, Havana	204	KW6	WAKE ISLAND	304	VP2	LEEWARD & WINDWARD ISLANDS	151
CN2	TANGIER ZONE	72	KX6	MARSHALL ISLANDS	294	VP3	BRITISH GUIANA, Georgetown	152
CN8	FRENCH MOROCCO, Casablanca	75	KZ5	CANAL ZONE	190	VP4	TRINIDAD	155
CP	BOLIVIA, La Paz	173	LA	NORWAY, Oslo	39	VP5	JAMAICA, Kingston	187
CR4	CAPE VERDE ISLANDS	105	LI	LIBYA, Tripoli	65	VP6	BARBADOS ISLANDS	149
CR5	PORTUGUESE GUINEA	101	LU	ARGENTINA, Buenos Aires	167	VP7	BAHAMAS ISLANDS	186
CR6	ANGOLA, Nova Lisboa	100	LX	LUXEMBOURG	51	VP8	FALKLAND ISLANDS	171
CR7	MOZAMBIQUE, Lourenco Marques	101	LZ	BULGARIA, Sofia	52		South Georgia Island	159
	Mocambique	85	MB9	AUSTRIA, Vienna	49		South Orkney Islands	166
CR8	GOA	35	MD1	CIRENAICA	61	VP9	BERMUDA	134
CR9	MACAU	352	MD2	TRIPOLITANIA	65	VQ1	ZANZIBAR	79
CR10	TIMOR ISLAND	327	MD3	ERITREA, Asmara	63	VQ2	NORTHERN RHODESIA, Lusaka	94
CT1	PORTUGAL, Lisbon	70	MD4	BRITISH SOMALILAND	62	VQ3	TANGANYIKA, Dar-Es-Salaam	80
CT2	AZORES ISLANDS	78	MD5	SUEZ CANAL ZONE	57	VQ4	KENYA, Nairobi	77
CT3	MADERIA ISLANDS	81	MD6	IRAQ, Baghdad	47	VQ5	UGANDA	83
CX	URUGUAY, Montevideo	165	MD7	CYPRUS	53	VQ6	BRITISH SOMALILAND, Berbera	62
DL	GERMANY, Berlin	46	MF2	TRIESTE (British)	53	VQ8	CHAGOS ISLANDS	50
DU	PHILIPPINE ISLANDS, Manila	343	M13	ERITREA, Asmara	63		Mauritius	78
EA	SPAIN, Madrid	66	MP4	BAHREIN ISLANDS & OMAN	48	VQ9	SEYCHELLES	65
EA6	BALEARIC ISLANDS	64	MI	SAN MARINO	55	VR1	GILBERT ISLANDS	283
EA8	CANARY ISLANDS	86	OA	PERU, Lima	184	VR2	FIJI ISLANDS, Suva	267
EA9	SPANISH MOROCCO	72	OE	AUSTRIA, Vienna	49	VR3	FANNING ISLAND	270
EI	IRELAND, Dublin	50	OH	FINLAND, Helsinki	25	VR4	SOLOMON ISLANDS	290
EKI	TANGIER ZONE	72	OK	CZECHOSLOVAKIA, Prague	48	VR5	TONGA ISLANDS	261
EL	LIBERIA, Monrovia	103	ON	BELGIUM, Brussels	51	VR6	PITCAIRN ISLAND	229
EP	IRAN, Tehran	42	OQ5	BELGIAN CONGO, Elisabethville	91	VS	MALAYA, Singapore	3
ET	ETHIOPIA, Addis Ababa	68		Leopoldville	94	VS4	BRITISH NORTH BORNEO	345
F	FRANCE, Paris	54		Stanleyville	83	VS5	BRUNEI and SARAWAK	348
FA	ALGERIA, Algiers	67	OX	GREENLAND, Godthaab	22	VS6	HONG KONG	351
FB8	MADAGASCAR, Antsirana	77	OY	FAEROES ISLANDS	38	VS7	CEYLON	32
	Tananarive	84	OZ	DENMARK, Copenhagen	43	VS9	ADEN, Aden	61
FC	CORSICA	58	PA	NETHERLANDS, Amsterdam	49	VU	INDIA, Bombay	34
FD8	TOGOLAND	93	PJ	NETHERLAND WEST INDIES	169		Calcutta	18
FE8	FRENCH CAMEROONS	90	PK	JAVA, Batavia	358		Delhi	26
FF8	FRENCH WEST AFRICA, Dakar	101	PK4	SUMATRA	5	VU4	LACCADIVE ISLANDS	38
FG8	GADELOUPE	152	PK5	BORNEO	348	VU5	ANDAMAN ISLANDS	16
FI8	FRENCH INDO CHINA, Saigon	359	PK6	CELEBES ISLAND	336	XE	MEXICO, Mexico City	233
FK8	NEW CALEDONIA, Noumea	271	PK7	NETHERLAND NEW GUINEA	313	XZ	BURMA, Rangoon	11
FKS8	AUSTRIA, Vienna	49	PX	ANDORRA	62	YA	AFGHANISTAN, Kandahar	34
FL8	FRENCH SOMALILAND, Djibouti	63	PY	BRAZIL, Natal	132	YI	IRAQ, Baghdad	47
FN	FRENCH INDIA	18		Rio de Janeiro	150	YJ	NEW HEBRIDES	276
FM8	MARTINIQUE	153	PZ	SURINAM (Netherland Guiana)	151	YK	SYRIA	50
F08	FRENCH OCEANIA, Tahiti	248	SM	SWEDEN, Stockholm	38	YN	NICARAGUA, Managua	204
FP8	MIQUELON & ST. PIERRE IS.	55	SP	POLAND, Warsaw	44	YO	ROMANIA, Bucharest	49
FQ8	FRENCH EQUATORIAL AFRICA	82	ST	ANGLO-EGYPTIAN SUDAN,		YS	SALVADOR, San Salvador	210
FR8	REUNION ISLAND	81		Khartoum	67	YT	YUGOSLAVIA, Belgrade	51
FT4	TUNISIA, Tunis	63	SU	EGYPT, Cairo	58	YV	VENEZUELA, Caracas	166
FU8	NEW HEBRIDES	276	SV	GREECE, Athens	56	ZA	ALBANIA, Tirana	55
FY8	FRENCH GUIANA, Cayenne	146	SV5	DODECANESE ISLANDS	54	ZB1	MALTA	61
G	ENGLAND, London	51	TA	TURKEY, Ankara	49	ZB2	GIBRALTAR	71
GC	CHANNEL ISLANDS	53	TF	ICELAND, Reykjavik	34	Z01	TRANSJORDAN	53
GD	ISLE OF MAN	48	TG	GUATEMALA, Guatemala City	214	Z02	COCOS ISLANDS	18
GI	NORTHERN IRELAND, Belfast	49	TI	COSTA RICA, San Jose	199	Z03	CHRISTMAS ISLAND	267
GM	SCOTLAND, Glasgow	46	TR	LIBYA, Tripoli	65	Z04	CYPRUS	53
GW	WALES	50	TT	TANNU TUVA, Kyzyl Khot	7	ZD1	SIERRA LEONE, Freetown	103
HA	HUNGARY, Budapest	49	U	SOVIET UNION, Moscow	34	ZD2	NIGERIA, Lagos	93
HB	SWITZERLAND, Bern	54	UB5	UKRAINE	43	ZD3	GAMBIA	102
HC	ECUADOR, Quito	187	UG5	WHITE RUSSIA	39	ZD4	GOLD COAST, Accra	96
HC8	GALAPAGOS ISLANDS	205	UD6	AZERBAIJAN	42	ZD6	NYASALAND	87
HEI	LEICHTENSTEIN	54	UF6	GEORGIA	41	ZD7	ST. HELENA	116
HH	HAITI, Port-au-Prince	175	UG6	ARMENIA	43	ZD8	ASENCION ISLAND	116
HI	DOMINICAN REPUBLIC	170	UH8	TURKOMAN	33	ZD9	TRISTAN da CUNHA	135
HK	COLOMBIA, Bogota	180	UI8	UZBEK	29	ZE	SOUTHERN RHODESIA, Salisbury	94
HLI	KOREA, Seoul	343	UJ8	TADZHIK	28	ZK1	COOK ISLANDS	252
HP	PANAMA	190	UL7	KAZAKH	22	ZK2	NIUE	258
HR	HONDURAS, Tegucigalpa	207	UM8	KIRGHIZ	21	ZL1	NEW ZEALAND, Auckland	251
HS	SIAM, Bangkok	6	UNI	KARELO-FINNISH REPUBLIC	27	ZL2	Wellington	245
HV	VATICAN CITY	57	U05	MOLDAVIA	46	ZL3	Christchurch	243
HZ	SAUDI ARABIA	55	UP	LITHUANIA	40	ZL4	Dunedin	241
I	ITALY, Rome	57	UQ	LATVIA	38	ZM6	SAMOA (British)	265
IS	SARDINIA	60	UR	ESTONIA	36	ZP	PARAGUAY, Asuncion	164
JA	JAPAN, TOKYO	333	VE1	CANADA, Halifax	61	ZS	UNION OF SOUTH AFRICA,	
KA	JAPAN, Tokyo	333	VE2	Montreal	4		Capetown	116
KB6	BAKER ISLAND	278	VE3	Toronto	305		Durban	106
KG6	CAROLINE ISLANDS	312	VE4	Winnipeg	307	ZS3	Johannesburg	104
KG4	GUANTANAMO BAY, Cuba	181	VE5	Saskatoon	308		SOUTH WEST AFRICA, Windhoek	107
KG6	GUAM	318	VE6	Edmonton	311	ZS7	SWAZILAND	102
KG6I	IWO JIMA ISLAND	327	VE7	Vancouver	302	ZS8	BASUTOLAND	107
KG6S	SAIPAN ISLAND	318	VE8	Port Nelson	318	ZS9	BECHUANALAND	103
KG6T	TINIAN ISLAND	318	VKI	HEARD ISLAND	130	3A2	MONACO	57
KH6	HAWAIIAN ISLANDS, Honolulu	283	VK2	AUSTRALIA, Sydney	266	3V8	TUNISIA	63
KJ6	JOHNSTON ISLAND	286				4X4	ISRAEL	54
						5A2	LIBYA	65
						9S4	SAARLAND	52

"Q" SIGNALS

Given below are a number of Q signals whose meanings most often need to be expressed with brevity and clearness in amateur work. (Q abbreviations take the form of questions only when each is sent followed by a question mark.)

- QAV Are you calling me? I am calling.....
- QRG Will you tell me my exact frequency in kilocycles? Your frequency is.....kc.
- QRH Does my frequency vary? Your frequency varies.
- QRI How is the tone of my transmission? The tone of your transmission is..... (1. good; 2. variable; 3. bad).
- QRJ Are you receiving me badly? Are my signals weak? I cannot receive you. Your signals are too weak.
- QRK What is the readability of my signals (1 to 5)? The readability of your signals is.....(1 to 5).
- QRL Are you busy? I am busy or busy with (.....).
- QRM Are you being interfered with? I am interfered with.
- QRN Are you troubled by atmospherics? I am being troubled by atmospherics.
- QRQ Shall I send faster? Send faster (..... words per min.).
- QRS Shall I send more slowly? Send more slowly (.....w.p.m.).
- QRT Shall I stop sending? Stop sending.
- QRU Have you anything for me? I have nothing for you.
- QRV Are you ready? I am ready.
- QRW Shall I tell.....that you are calling him? Please tell.....that I am calling him.
- QRX When will you call again? I will call you again at.....hours (on.....kc).
- QRZ By whom am I being called? You are being called by.....
- QSA What is the strength of my signals (1 to 5)? The strength of your signals is.....(1 to 5).
- QSB Does the strength of my signals vary? The strength of your signals varies.
- QSD Is my keying correct? Are my signals distinct? Your keying is incorrect; your signals are bad.
- QSG Shall I send.....telegrams (or one) at a time? Send.....telegrams at a time.
- QSL Can you give me acknowledgment of receipt? I give you acknowledgment of receipt.
- QSM Shall I repeat the last telegram I sent you? Repeat the last telegram you sent me.
- QSO Can you communicate with.....direct (or through.....)? I can communicate with.....direct (or through.....).
- QSP Will you relay to.....? I will relay to.....
- QSV Shall I send a series of VVV.....? Send a series of VVV.
- QSW Will you send on.....kcs? etc. I will send on.....kcs, etc.
- QSX Will you listen for.....(call sign) on.....kcs? I am listening for.....on.....kcs.
- QSY Shall I change to.....kilocycles without changing the type of wave? Change to.....kc. without changing type of wave.
- QSZ Shall I send each word or group twice? Send each word or group twice.
- QTA Shall I cancel nr.....as if it had not been sent? Cancel nr.....as if it had not been sent.
- QTB Do you agree with my number of words? I do not agree with your number of words; I will repeat the first letter of each word and the first figure of each number.
- QTC How many telegrams have you to send? I have.....telegrams for you or for.....
- QTH What is your position (location)? My location is.....(by any indication).
- QTR What is the exact time? The time is.....
- CQ is the general call to any station.
Special abbreviations adopted by ARRL:
- QST General call preceding a message addressed to all amateurs and ARRL Members. This is in effect "CQ ARRL."
- QRRR Official ARRL "land SOS." A distress call for emergency use only by station in an emergency situation.

A.R.R.L.-NET "QN" SIGNALS

- QNA Answer in pre-arranged order.
- QNB Act as relay between.....and.....
- QNC All Net stations copy.
- QND Net is directed.
- QNE Entire Net please stand by.
- QNF Net is free.
- QNG Take over as Net Control Station.
- QNH Your Net frequency is high.
- QNI Report into Net **or** I report into Net.
- QNJ Can you copy me (**or**.....)?
- QNK Transmit message(s) (for.....) to.....
- QNL Your Net frequency is low.
- QNM You are QRMing.....; please stand by.
- QNN Net Control Station is.....(on.....kc.).
- QNO Going out of Net.
- QNP Unable to copy you (**or**.....)?
- QNQ Send you information "QNC" **or** May I transmit message "QNC?"
- QNR Answer.....and relay (**or** receive) traffic.
- QNS Following stations in Net.....
- QNT Leaving Net temporarily (**or** for.....minutes) **or** I request to leave Net temporarily, etc.
- QNU.....has traffic for you; await instructions (**or** QNU QNR).
- QNV Please request.....to QSV.
- QNW Through whom shall I relay message for.....?
- QNX You are excused from Net **or** I request to be excused.
- QNY Please shift to another frequency (**or** to.....kc.) to prevent QRMing other Net stations (**or** to clear traffic with.....).
- QNZ Zero beat your signal with that of the Net Control Station.

PR CRYSTALS

SINCE 1934



AMATEUR

40, 80 and 160 Meters,
PR Type Z-2

Rugged. Low drift, fundamental oscillators. High activity and power output. Stable, long lasting. ± 500 cycles.

\$2.95 Net

20 Meters, PR Type Z-3

Third overtone oscillator. Fine for doubling to 10 and 11 meters or "straight through" 20 meter operation; ± 500 cycles. \$3.95 Net

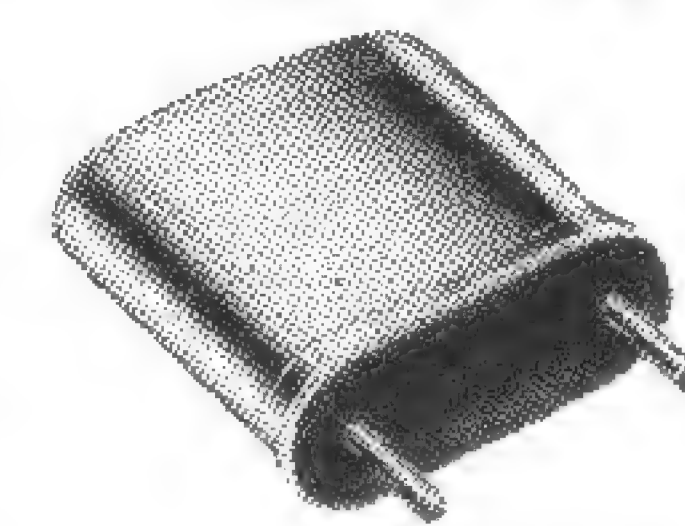


24 to 27 Mc., PR Type Z-9A

3d overtone; multiplies into either 2-meter or 6-meter band; hermetically sealed; calibrated 24 to 27 mc., ± 3 kc.; .050" pins. \$4.95 Net

50 to 54 Mc., PR Type Z-9A

5th overtone; for operating directly in 6-meter band; hermetically sealed; calibrated 50 to 54 mc., ± 15 kc.; .050" pins. \$6.95 Net



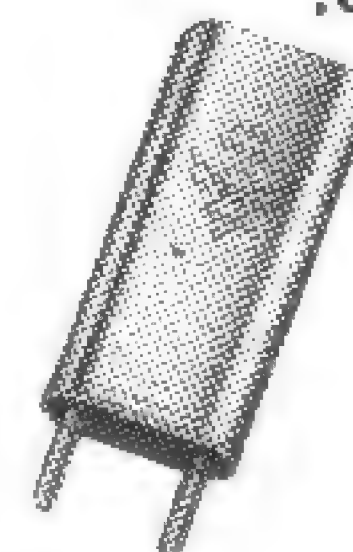
SPECIAL TYPES

Commercial Crystals available from 100 Kc. to 70 Mc. Prices on request.

Type Z-1, Aircraft | Z-1, MARS & CAP

3023.5 Kc.,
.005% \$3.45 Net

Official assigned transmitter frequencies in the range. Calibrated to .005%. 1600 to 10000 Kc. \$3.45 Net



Type Z-6A, Frequency Standard

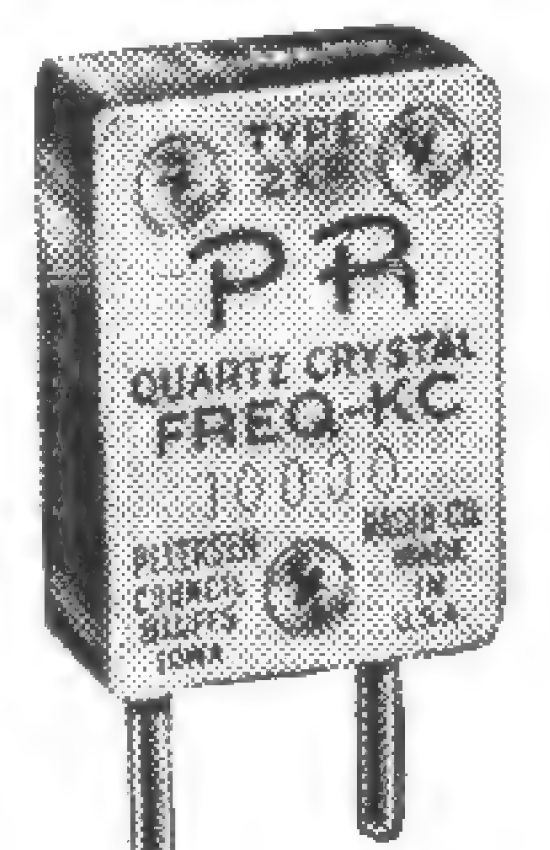
To determine band-edge. To keep the VFO and receiver properly calibrated. 100 Kc. \$6.95 Net

Type 2XP

Suitable for converters, experimental, etc. Same holder dimensions as Type Z-2.

1600 to 12000 Kc. (Fund.)
 ± 5 Kc. \$3.45 Net

12001 to 25000 Kc. (3d Mode)
 ± 10 Kc. \$4.45 Net



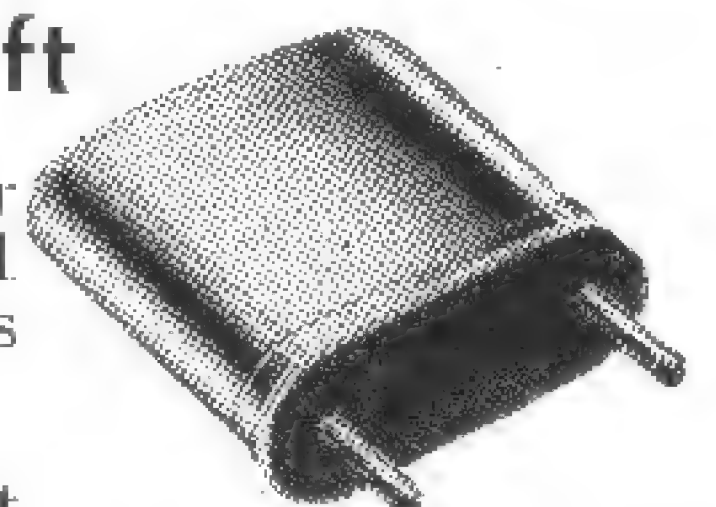
Type Z-1, TV Marker Crystals

Channels 2 through 13 \$6.45 Net
3100 Kc. \$2.95 Net 4100 Kc. \$2.95 Net
4.5 Mc. Inter-carrier, .01% \$2.95 Net
5.0 Mc. Sig. Generator, .01% \$2.95 Net
10.7 Mc. FM, IF, .01% \$2.95 Net

VHF Type Z-9R, Aircraft

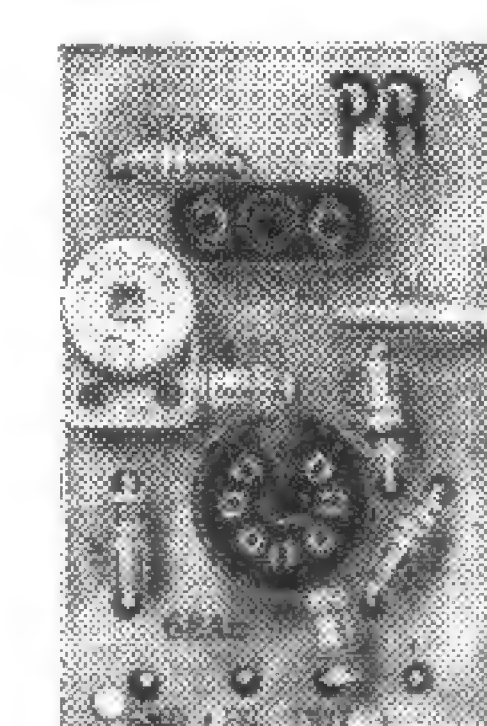
For Lear, Narco and similar equipment operating in the 121 Mc. region, requiring crystals in 30 Mc. range.

Each \$4.95 Net



Type Z-9A, Radio Controlled Objects

27.255 Mc., .005% \$4.25 Net



PR Printed Oscillator Kit

HAS MANY USES... As 100 Kc. Marker... As 1000 Kc. Marker for Check Points up to 54 Mc. As Foundation Circuit for Low Frequency SSB Crystals.

Assembled in minutes. Kit contains everything but 6BA6 oscillator tube and crystal.

Each \$4.50 Net

ALL PR CRYSTALS ARE UNCONDITIONALLY GUARANTEED

PETERSEN RADIO CO., INC.

2800 W. BROADWAY
COUNCIL BLUFFS, IOWA

GREAT CIRCLE BEARINGS FROM THE UNITED STATES TO VARIOUS WORLD WIDE METROPOLITAN AREAS

ATLANTA, GA.	43	325	153	242	160	26	48	45	158	51	114	141	38	198	170	30	280	102	160	170	45	58	329	227	156	32	34	47	42	170	139	51	179	168	336	346	33	254	324	TOKYO, JAPAN	
BIRMINGHAM, ALA.	42	325	151	241	155	23	47	44	156	50	113	137	37	191	158	29	279	101	157	167	44	57	327	221	154	36	33	47	42	165	137	50	173	166	334	342	32	253	323	SYDNEY, AUSTRALIA	
BISMARCK, N. D.	42	315	141	240	143	7	45	43	146	40	97	131	35	162	142	27	261	81	146	154	45	56	317	177	145	84	33	46	39	151	129	46	153	155	325	328	30	256	314	SINGAPORE, MALAYA	
BOSTON, MASS.	51	321	167	253	186	36	56	53	169	60	117	172	45	217	210	36	284	105	177	187	53	68	346	235	168	331	40	56	50	191	153	59	205	181	349	7	39	270	335	SHANGHAI, CHINA	
BUFFALO, N. Y.	49	320	160	250	172	29	53	51	163	55	112	159	42	203	189	34	279	99	168	178	51	65	338	222	161	54	38	53	47	179	146	56	189	173	342	356	37	266	329	SANTIAGO, CHILE	
CHARLESTON, W. VA.	46	322	156	246	167	28	50	47	160	53	113	151	40	201	183	32	279	101	164	174	48	61	334	224	159	37	36	50	45	175	143	53	185	170	339	351	35	259	327	SAN JOSE, COSTA RICA	
CHEYENNE, WYO.	38	322	138	236	135	3	41	40	143	37	100	122	32	151	127	24	263	84	141	148	41	52	312	166	142	69	30	42	36	143	126	42	144	152	322	321	27	250	312	ROME, ITALY	
CHICAGO, ILL.	45	320	152	245	158	21	49	47	156	49	108	144	39	186	165	31	274	95	158	167	48	60	328	207	154	66	36	50	44	167	138	51	173	166	335	343	34	260	323	RIO DE JANEIRO, BRAZIL	
CLEVELAND, OHIO	47	320	157	247	167	27	52	49	161	53	111	153	41	198	182	33	278	99	165	174	50	63	334	219	159	53	37	52	46	175	143	54	184	171	340	352	36	263	327	PRAQUE, CZECHOSLOVAKIA	
COLUMBIA, S. C.	44	324	156	243	166	29	49	46	161	53	115	148	39	206	186	31	281	103	164	175	46	59	333	232	159	24	35	48	44	175	142	52	187	171	339	352	34	255	327	PARIS, FRANCE	
DALLAS, TEXAS	39	326	142	237	138	12	43	41	148	44	110	122	34	161	123	26	274	97	146	154	42	53	317	189	147	48	31	43	38	149	130	45	150	157	326	326	29	249	317	OSLO, NORWAY	
DENVER, COLORADO	38	323	137	235	133	2	41	39	143	37	101	120	32	149	124	24	264	85	141	147	41	52	312	164	142	66	29	42	35	142	125	42	142	152	321	320	27	249	312	MONTREAL, CANADA	
DES MOINES, IOWA	43	320	146	242	149	15	47	44	151	45	105	135	37	173	149	28	270	90	152	160	46	58	323	194	150	68	34	47	41	158	134	48	162	161	330	335	32	256	319	MONTVIDEO, URUGUAY	
DETROIT, MICH.	47	320	156	247	166	25	51	49	160	52	110	151	41	195	178	32	277	97	163	173	50	63	333	216	159	62	37	52	46	173	142	54	182	169	339	350	35	263	326	MEXICO CITY, MEXICO	
EL PASO, TEXAS	36	329	135	233	125	1	39	37	142	37	108	111	30	136	106	22	270	94	137	142	38	49	308	150	140	52	27	40	34	135	124	41	131	149	319	313	25	245	312	MANILA, PHILIPPINE ISLANDS	
HELENA, MONTANA	36	318	133	233	130	355	39	38	138	31	89	119	30	144	124	22	252	71	136	142	39	49	308	154	137	78	28	40	33	138	121	39	138	147	317	316	25	249	307	MADRID, SPAIN	
HOUSTON, TEXAS	39	328	143	237	137	15	43	41	149	45	113	120	34	162	116	26	277	100	147	154	41	53	317	199	147	41	30	43	38	149	130	46	150	158	327	326	29	247	318	LONDON, ENGLAND	
INDIANAPOLIS, IND.	45	321	153	244	160	23	49	47	157	50	110	144	39	190	168	31	276	97	160	169	47	60	329	212	155	54	35	49	43	168	139	52	176	167	336	345	34	259	324	LA PAZ, BOLIVIA	
JACKSONVILLE, FLA.	42	326	155	242	163	30	48	44	160	53	117	142	37	209	185	30	283	105	163	173	44	57	331	239	158	20	33	47	42	174	141	51	187	170	338	350	33	251	326	JOHANNESBURG, SOUTH AFRICA	
KANSAS CITY, MO.	42	322	145	240	146	14	45	43	151	45	107	132	36	171	143	28	271	93	151	159	44	56	321	193	149	61	33	46	40	156	133	47	159	160	329	333	31	254	319	LIMA, PERU	
LITTLE ROCK, ARK.	41	325	146	240	147	17	45	43	152	47	111	130	36	175	141	28	275	98	152	160	43	56	322	203	150	47	32	45	40	157	134	48	161	161	330	334	31	252	320	LA PAZ, BOLIVIA	
LOS ANGELES, CALIF.	31	333	127	228	116	347	34	33	135	28	102	104	26	121	100	18	260	84	128	132	34	44	300	126	134	58	24	35	28	124	117	34	119	141	312	303	21	241	306	JOHANNESBURG, SOUTH AFRICA	
LOUISVILLE, KY.	44	322	153	244	160	23	49	46	157	50	111	144	39	191	168	30	277	98	160	169	47	60	329	215	156	47	35	49	43	168	139	51	176	167	336	345	33	257	324	LA PAZ, BOLIVIA	
MIAMI, FLORIDA	41	328	155	240	163	33	47	43	160	54	118	138	37	223	217	30	285	108	163	175	43	56	331	254	158	13	33	46	42	176	140	50	194	171	339	351	32	247	327	LA PAZ, BOLIVIA	
MILWAUKEE, WIS.	45	319	152	245	158	20	50	47	156	49	107	145	39	185	165	31	273	94	158	167	48	61	328	205	154	72	36	50	44	166	138	52	173	165	335	343	34	261	323	LA PAZ, BOLIVIA	
MINNEAPOLIS, MINN.	44	317	147	243	152	15	48	46	152	46	103	139	38	175	154	29	270	90	153	161	47	59	324	193	150	81	35	49	42	160	134	49	164	161	331	337	33	259	319	LA PAZ, BOLIVIA	
NASHVILLE, TENN.	43	323	151	242	157	23	48	45	156	50	112	140	38	190	162	30	277	99	158	167	46	58	328	216	155	43	34	48	42	166	138	50	174	166	335	343	33	255	324	LA PAZ, BOLIVIA	
NEW ORLEANS, LA.	40	327	147	239	146	21	45	42	153	48	114	127	35	182	133	28	279	102	152	161	43	55	322	220	151	35	32	45	40	158	135	48	163	162	331	334	30	249	321	LA PAZ, BOLIVIA	
NEW YORK, N. Y.	49	321	164	251	180	34	54	51	167	58	116	166	43	214	204	35	283	104	173	184	51	66	343	233	165	4	39	54	48	187	150	57	199	177	346	3	38	266	333	LA PAZ, BOLIVIA	
NORFOLK, VA.	46	323	161	247	176	33	51	48	165	56	116	160	41	213	203	33	283	104	170	181	48	62	339	235	163	12	36	51	46	184	147	55	197	175	344	0	36	260	331	LA PAZ, BOLIVIA	
PHILADELPHIA, PA.	48	322	163	249	178	33	53	50	166	57	115	164	42	212	202	34	282	103	172	182	50	65	341	232	164	11	38	53	48	185	149	56	197	176	345	2	37	264	332	LA PAZ, BOLIVIA	
PHOENIX, ARIZONA	34	330	131	231	121	121	354	37	35	138	33	105	108	28	129	104	20	265	89	133	138	36	47	304	137	137	56	26	38	31	130	121	38	126	146	316	308	23	243	309	LA PAZ, BOLIVIA
PITTSBURGH, PA.	47	321	158	247	170	29	52	49	162	54	113	155	41	203	187	33	279	100	167	176	49	63	336	224	160	41	37	52	46	178	145	55	188	172	341	354	36	262	329	LA PAZ, BOLIVIA	
ST. LOUIS, MO.	43	322	149	242	153	19	47	45	154	48	109	137	37	181	156	29	274	96	155	164	46	58	325	204	152	55	34	47	42	162	136	49	167	163	332	339	32	256	321	LA PAZ, BOLIVIA	
SALT LAKE CITY, UTAH	35	325	132	232	127	355	38	36	139	32	96	114	29	138	116	21	258	79	135	141	38	48	307	1-9	136	67	27	39	32	135	121	38	134	146	317	313	24	247	308	LA PAZ, BOLIVIA	
SAN FRANCISCO, CALIF.	30	333	125	226	115	343	32	31	132	24	95	104	24	121	101	16	252	74	126	130	33	42	298	126	131	62	22	33	26	123	115	32	119	139	310	301	19	240	303	LA PAZ, BOLIVIA	
SEATTLE, WASHINGTON	31	321	125	227	120	345	33	32	131	23	79	110	25	131	113	17	240	58	128	133	34	43	300	138	130	75	24	35	27	128	113	32	127	139	309	306	20	243	301	LA PAZ, BOLIVIA	
WASHINGTON, D. C.	47	322	161	248	175	32	52	49	164	56	115	160	41	210	198	33	282	103	170	180	49	63	339	231	163	20	37	52	47	182	147	55	194	1							



12% to 15% less attenuation!

polyfoam RG-8/U type cable

DESCRIPTION

AMPHENOL introduces a new polyfoam dielectric coaxial cable equivalent of RG-8/U but with a significant reduction in attenuation. Part number is 621-111.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

Impedance—50 ohms ± 2 ohms
Attenuation—4.0 db/100 feet nominal at 400 mc.
Dielectric Strength—5000 V. RMS
Corona—3000 V. RMS
Capacity—26.0 mmf/ft. nominal
Overall Diameter—.405" $\pm .010$ "

FEATURES

From 12% to 15% less attenuation than standard RG-8/U. Lower capacity than solid dielectric 50 ohm cables. Used with standard UHF Series connectors.

AVAILABILITY

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AMPHENOL Distributor!




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AMPHENOL-BORG ELECTRONICS CORPORATION
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Ranger

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MAGNETIC
MICROPHONE
WITH
TRANSISTOR
AMPLIFIER



All the advantages of controlled magnetic microphone construction—ability to withstand hard usage and extremes of climate and weather conditions—are yours in this sturdy, reliable microphone. The Ranger 505T has a flat frequency response characteristic (200 to 4000 cps), controlled to provide maximum speech efficiency.

It is ideally suited for SSB-AM transmission. Fits naturally and comfortably in the palm of the hand . . . takes up minimum space in mobile or fixed-station equipment. Equipped with heavy-duty push-to-talk switch.

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GREAT CIRCLE BEARINGS IN THE UNITED STATES

ATLANTA, GA.	264	322	47	24	25	301	343	15	86	269	297	320	7	271	310	251	347	145	306	281	281	347	154	345	331	321	234	48	64	48	278	27	318	296	289	308	48	84	WILMINGTON, N. C.	
BIRMINGHAM, ALA.	82	326	50	31	40	304	356	26	84	268	299	328	17	270	312	246	5	125	314	287	281	10	142	355	338	0	219	52	67	53	278	37	333	298	290	309	53	83	WASHINGTON, D. C.	
BISMARCK, N. D.	132	137	92	97	115	209	114	105	124	167	205	133	104	198	273	165	119	132	148	150	233	123	135	109	108	131	151	99	111	102	217	106	134	237	249	282	107	119	SEATTLE, WASHINGTON	
BOSTON, MASS.	236	241	291	277	247	278	273	267	226	254	275	275	274	262	293	246	263	220	268	253	273	256	207	278	286	249	237	235	219	233	268	258	262	280	280	295	236	217	SALT LAKE CITY, UTAH	
BUFFALO, N. Y.	208	217	291	277	247	278	273	264	237	192	241	269	268	261	252	290	231	243	191	258	237	267	231	184	274	286	225	219	118	160	134	261	199	248	276	276	293	159	174	ST. LOUIS, MO.
CHARLESTON, W. VA.	208	223	307	61	24	287	309	359	174	251	282	293	345	260	300	238	293	180	279	251	274	270	174	316	311	245	223	66	108	71	269	31	275	286	282	301	80	143	PHILADELPHIA, PA.	
CHEYENNE, WYO.	108	112	26	76	91	81	81	103	140	187	83	79	189	319	143	90	113	101	119	241	95	119	76	62	104	128	81	92	83	219	84	98	268	262	303	87	100	NORFOLK, VA.		
CHICAGO, ILL.	161	175	302	82	78	125	272	93	144	221	266	268	80	242	293	210	151	155	245	208	262	157	156	350	308	173	190	91	116	97	254	101	212	274	272	295	106	131	NEW YORK, N. Y.	
CLEVELAND, OHIO	197	209	297	80	55	179	277	277	176	240	272	275	310	252	293	228	245	180	261	235	268	226	175	290	296	219	214	95	136	105	262	127	250	278	277	296	124	156	MINNEAPOLIS, MINN.	
COLUMBIA, S. C.	268	267	317	41	10	354	299	329	356	270	295	311	350	271	308	256	326	189	300	279	282	320	174	331	323	297	246	39	53	37	279	7	305	295	290	307	33	85	MILWAUKEE, WIS.	
DALLAS, TEXAS	81	82	349	57	49	61	325	36	50	80	319	15	45	266	325	157	47	97	15	61	280	55	112	32	11	65	115	60	71	61	277	55	40	308	291	315	63	80	MIAMI, FLORIDA	
DENVER, COLORADO	103	107	22	73	72	87	6	75	77	99	134	74	74	189	325	138	84	109	91	112	246	90	116	70	55	98	124	78	88	80	224	80	91	283	267	308	83	96	LOUISVILLE, KY.	
DES MOINES, IOWA	134	144	318	80	78	105	271	84	87	123	197	262	81	231	297	187	105	135	197	171	257	116	141	69	5	133	165	87	104	91	247	92	137	273	270	296	97	115	KANSAS CITY, MO.	
DETROIT, MICH.	188	200	295	86	79	164	273	263	129	168	233	268	268	248	291	222	224	174	254	227	265	208	171	282	292	206	207	100	133	109	258	128	238	275	274	294	124	151	HELENA, MONTANA	
EL PASO, TEXAS	77	78	14	58	54	64	8	50	56	76	79	8	42	53	345	98	57	86	48	71	285	62	97	46	33	68	92	61	69	62	290	59	57	335	298	327	64	75	HOUSTON, TEXAS	
HELENA, MONTANA	112	116	85	84	88	100	133	97	93	108	134	141	105	92	162	136	101	115	115	122	203	105	119	94	91	111	127	89	98	92	180	94	109	179	224	283	95	104	INDIANAPOLIS, IND.	
HOUSTON, TEXAS	64	60	348	50	40	49	329	25	39	67	338	325	6	34	285	327	34	84	3	26	288	40	103	22	5	46	86	52	60	53	289	45	24	314	297	319	51	68	JACKSONVILLE, FLA.	
INDIANAPOLIS, IND.	166	185	308	72	58	110	281	332	62	143	234	276	290	41	250	298	220	157	267	226	267	168	158	338	316	188	199	80	107	85	261	80	251	281	277	298	94	127	KANSAS CITY, MO.	
JACKSONVILLE, FLA.	327	309	324	33	9	1	308	339	0	8	286	304	323	355	282	314	273	340	314	300	288	338	163	341	332	326	271	29	34	28	287	8	323	303	295	312	23	39	LITTLE ROCK, ARK.	
KANSAS CITY, MO.	120	129	332	72	67	90	288	60	73	111	196	278	15	66	236	306	184	82	126	157	262	95	134	50	9	113	157	78	93	81	253	79	97	282	275	302	85	105	LOS ANGELES, CALIF.	
LITTLE ROCK, ARK.	97	104	335	59	48	65	307	26	48	92	243	300	352	41	260	315	208	43	114	338	276	55	128	21	356	71	158	62	76	64	271	56	22	297	286	309	67	89	LOUISVILLE, KY.	
LOS ANGELES, CALIF.	81	82	41	62	61	70	52	62	65	79	88	57	60	62	100	19	96	67	87	81	70	94	59	52	76	92	65	71	66	95	67	69	35	319	348	68	78	MIAMI, FLORIDA		
LOUISVILLE, KY.	166	190	313	66	47	87	287	339	43	137	242	282	301	26	256	302	227	348	156	280	239	271	158	342	322	202	205	71	98	75	266	63	278	285	281	301	82	120	MILWAUKEE, WIS.	
MIAMI, FLORIDA	337	326	329	22	3	355	313	342	356	355	302	310	329	353	291	318	290	342	345	321	315	293	341	342	335	334	298	18	16	15	293	1	330	308	299	315	11	13	MINNEAPOLIS, MINN.	
MILWAUKEE, WIS.	162	175	297	87	88	132	267	170	107	147	218	261	253	99	239	290	207	157	156	235	204	259	160	157	298	172	188	98	121	103	251	111	203	271	270	293	113	135	NASHVILLE, TENN.	
MINNEAPOLIS, MINN.	145	154	291	91	96	123	248	125	108	135	193	242	184	105	227	283	186	132	144	189	175	248	137	146	114	148	169	99	116	104	237	110	159	259	261	287	111	127	NEW ORLEANS, LA.	
NASHVILLE, TENN.	140	180	320	59	40	61	295	354	36	114	251	290	318	24	261	307	231	8	142	298	254	275	22	150	353	333	205	63	83	65	271	50	313	291	285	305	68	103	NEW YORK, N. Y.	
NEW ORLEANS, LA.	50	37	337	46	32	38	318	9	28	60	299	313	347	22	283	321	270	17	86	339	339	288	22	114	7	351	23	46	56	47	287	35	359	308	296	315	47	64	PHILADELPHIA, PA.	
NEW YORK, N. Y.	233	240	296	54	303	251	281	281	280	223	255	278	280	286	262	294	244	269	213	271	253	274	259	202	287	293	251	237	205	229	269	269	266	283	282	297	235	208	NORFOLK, VA.	
NORFOLK, VA.	249	253	306	35	342	291	290	303	319	236	264	286	295	318	268	301	253	294	217	285	267	279	284	198	308	307	269	244	25	16	274	322	284	289	286	302	343	208	PHILADELPHIA, PA.	
PHILADELPHIA, PA.	233	240	298	52	317	255	283	285	289	221	255	279	283	294	263	296	246	273	212	273	255	275	263	199	292	296	252	235	49	197	270	279	269	284	282	298	235	203	PHOENIX, ARIZONA	
PHOENIX, ARIZONA	80	83	29	61	59	69	35	58	62	79	89	40	55	59	108	0	100	64	89	62	80	277	70	97	55	45	74	93	64	72	66	64	66	1	300	334	68	79	PITTSBURGH, PA.	
PITTSBURGH, PA.	210	221	300	72	18	213	280	286	308	188	246	276	281	310	257	295	235	264	189	268	244	271	246	181	296	299	234	222	85	140	96	265	261	281	279	297	123	165	ST. LOUIS, MO.	
ST. LOUIS, MO.	134	150	320	70	60	90	287	30	63	119	224	280	319	53	248	303	207	68	137	280	204	267	94	143	20	342	130	179	75	95	79	260	74	284	278	301	84	110	SALT LAKE CITY, UTAH	
SALT LAKE CITY, UTAH	99	101	50	73	74	86	83	79	78	95	118	98	80	76	152	359	123	84	103	91	104	220	88	109	75	67	95	114	78	86	80	181	80	90	254	315	83	92	SAN FRANCISCO, CALIF.	
SAN FRANCISCO, CALIF.	86	86	54	66	67	75	70	70	83	96	75	70	68	109	39	101	73	90	77	88	136	77	96	67	96	67	62	81	97	69	76	71	114	71	77	66	1	73	81	SEATTLE, WASHINGTON
SEATTLE, WASHINGTON	103	105	87	81	84	94	111	92	89	100	118	116	97	88	136	96	120	95	105	103	109	165	97	109	90	88	102	114	85	92	87	147	89	100	128	181	90	97	WASHINGTON, D. C.	
WASHINGTON, D. C.	233	240	302	52	342	263	285	293	307	215	256	281	287	308	263	298	245	280	205	277	257	275	268	192	300	302	254	235	53	163	53	270	305	273	285	283	300	189	WILMINGTON, N. C.	
WILMINGTON, N. C.	267	267	313	32	355	325	297	318	339	267	270	293	306	335	274	307	258	313	222	296	278	283	30																	

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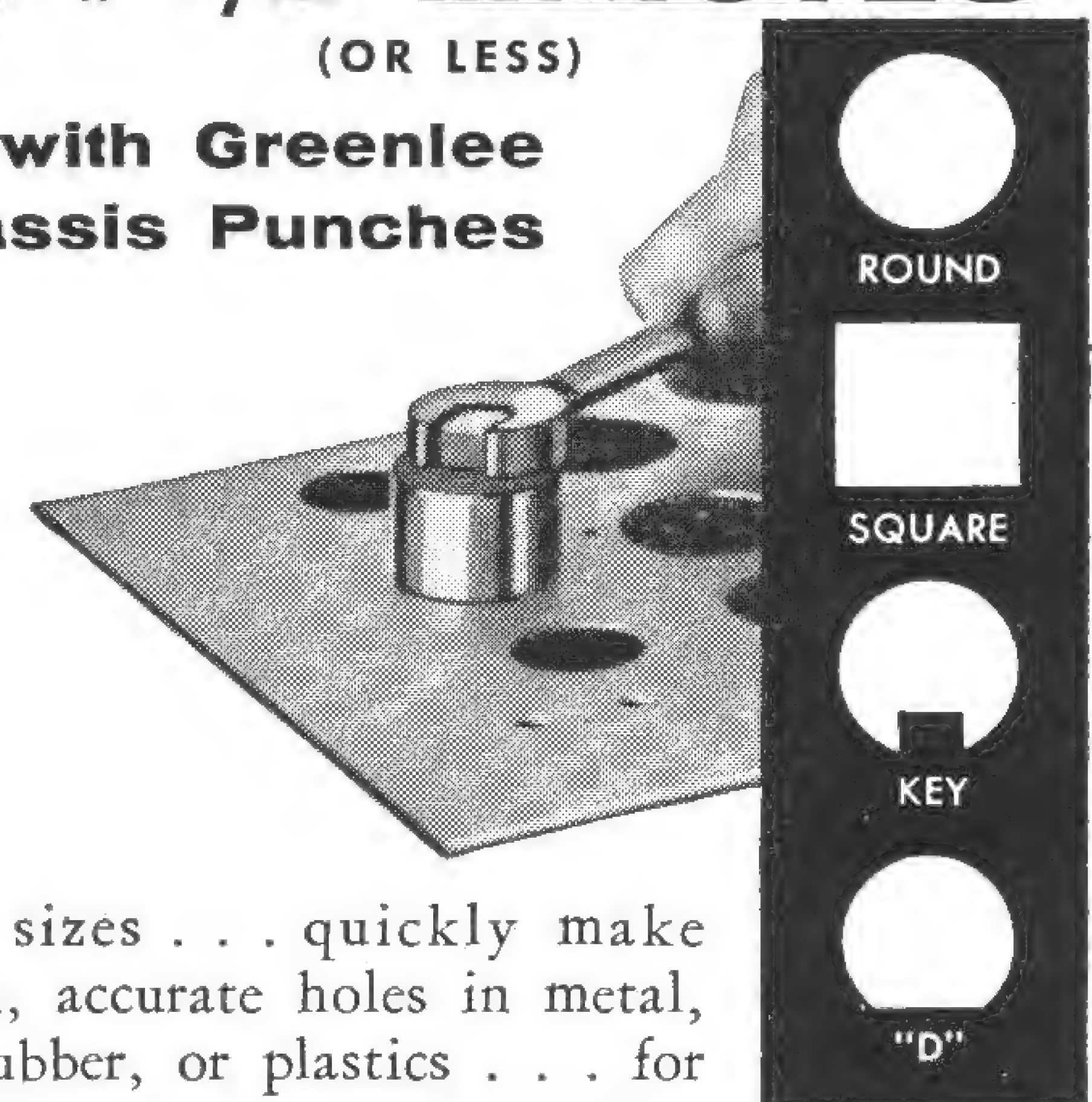
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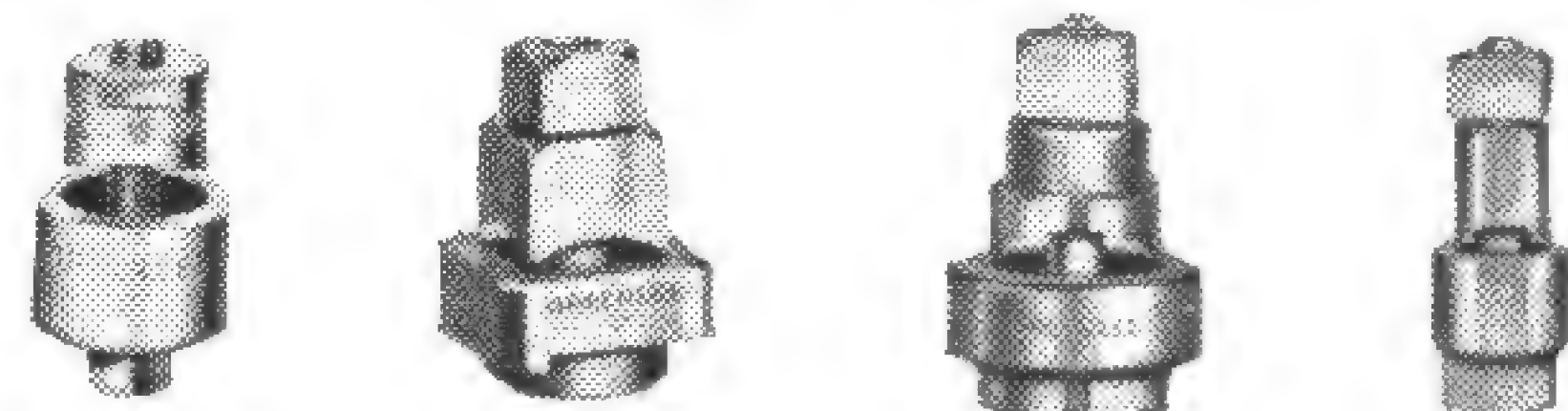
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GREAT CIRCLE BEARINGS

FROM THE CENTER OF THE UNITED STATES

The table below shows the great circle bearing in degrees from the exact center of the United States to countries throughout the world having licensed radio amateurs. Where cities are shown the bearing to the nearest degree is given. These bearings were compiled from information supplied by the U. S. Coast and Geodetic Survey.

Prefix	Country	Bearing
AG3	SIKKIM	352
AG4	TIBET, Lhasa	350
AG2	TRIESTE	41
AP	PAKISTAN, Karachi	13
AR8	LEBANON, Beyrouth	36
C	CHINA, Chungking	335
	Pekin	333
	Shanghai	325
CE	CHILE, Santiago	156
CM	CUBA, Havana	135
CN8	FRENCH MOROCCO, Casablanca	62
CP	BOLIVIA, La Paz	146
CR4	CAPE VERDE ISLANDS	87
CR5	PORTUGUESE GUINEA	84
CR6	ANGOLA, Nova Lisboa	83
CR7	MOZAMBIQUE, Lourenco Marques	85
	Mozambique	65
CR8	GOA	7
CR9	MAGAU	327
CR10	TIMOR ISLAND	295
CT1	PORTUGAL, Lisbon	59
CT2	AZORES ISLANDS	67
CT3	MADERIA ISLANDS	68
CX	URUGUAY, Montevideo	145
DL	GERMANY, Berlin	37
DU	PHILIPPINE ISLANDS, Manila	316
EA	SPAIN, Madrid	54
EA6	BALEARIC ISLANDS	52
EA8	CANARY ISLANDS	71
EA9	SPANISH MOROCCO	59
EI	IRELAND, Dublin	43
EK1	TANGIER ZONE	60
EL	LIBERIA, Monrovia	86
EP	IRAN, Tehran	23
ET	ETHIOPIA, Addis Ababa	48
F	FRANCE, Paris	44
FA	ALGERIA, Algiers	54
FB8	MADAGASCAR, Antsirana	53
	Tananarive	63
FC	CORSICA	46
FD8	TOGOLAND	77
FE8	FRENCH CAMEROONS	72
FF8	FRENCH WEST AFRICA, Dakar	84
FG8	GUADELOUPE	114
FI8	FRENCH INDO CHINA, Saigon	328
FK8	NEW CALEDONIA, Noumea	254
FL8	FRENCH SOMALILAND, Djibouti	42
FM8	MARTINIQUE	117
FO8	FRENCH OCEANIA, Tahiti	229
FP8	MIQUELON and ST. PIERRE IS.	64
FQ8	FRENCH EQUATORIAL AFRICA	65
FR8	REUNION ISLAND	55
FT4	TUNISIA, Tunis	50
FU8	NEW HEBRIDES	259
FY8	FRENCH GUIANA, Cayenne	117
G	ENGLAND, London	43
GC	CHANNEL ISLANDS	45
GD	ISLE OF MAN	41
GI	NORTHERN IRELAND, Belfast	42
GM	SCOTLAND, Glasgow	40
GW	WALES	43
HA	HUNGARY, Budapest	37
HB	SWITZERLAND, Bern	43
HC	ECUADOR, Quito	148
HC8	GALAPAGOS ISLANDS	167
HE1	LEICHTENSTEIN	43
HH	HAITI, Port-au-Prince	124
HI	DOMINICAN REPUBLIC	122
HK	COLOMBIA, Bogota	140
HK1	KOREA, Seoul	324
HP	PANAMA	145
HR	HONDURAS	152
HS	SIAM, Bangkok	336
HV	VATICAN CITY	45
HZ	SAUDI ARABIA	34
I	ITALY, Rome	45
IS	SARDINIA	48
JA	JAPAN, Tokyo	315
KB6	BAKER ISLAND	262
KC6	CAROLINE ISLANDS	260
KG4	GUANTANAMO BAY, Cuba	126
KG6	GUAM	297
KG61	IWO JIMA ISLAND	317
KG6S	SAIPAN ISLAND	297
KG6T	TINIAN ISLAND	297
KH6	HAWAIIAN ISLANDS, Honolulu	267
KJ6	JOHNSTON ISLAND	270

Prefix	Country	Bearing
KL7	ALASKA, Anchorage	322
	Fairbanks	329
KM6	MIDWAY ISLAND	288
KP4	PUERTO RICO	117
KP6	PALMYRA ISLAND	256
KR6	OKINAWA ISLAND	318
KS4	SWAN ISLAND	144
KS6	SAMOA	248
KV4	VIRGIN ISLANDS	115
KW6	WAKE ISLAND	287
KX6	MARSHALL ISLANDS	276
KZ5	CANAL ZONE	145
LA	NORWAY, Oslo	29
LI	LIBYA, Tripoli	51
LU	ARGENTINA, Buenos Aires	147
LX	LUXEMBOURG	42
LZ	BULGARIA, Sofia	38
MB9	AUSTRIA, Vienna	38
MD1	CIRENAICA	46
MD2	TRIPOLITANIA	51
MD3	ERITREA, Asmara	44
MD4	BRITISH SOMALILAND	40
MD5	SUEZ CANAL ZONE	40
MD6	IRAQ, Baghdad	30
MD7	CYPRUS	37
MF2	TRIESTE (British)	41
MI3	ERITREA, Asmara	44
MP4	BAHREIN ISLANDS and OMAN	28
OA	PERU, Lima	153
OH	FINLAND, Helsinki	25
OE	AUSTRIA, Vienna	38
OK	CZECHOSLOVAKIA, Prague	38
ON	BELGIUM, Brussels	41
OQ5	BELGIAN CONGO, Elisabethville	74
	Leopoldville	76
	Stanleyville	65
OX	GREENLAND, Godthaab	34
OY	FAEROES ISLANDS	34
OZ	DENMARK, Copenhagen	34
PA	NETHERLANDS, Amsterdam	40
PK	JAVA, Batavia	317
PK4	SUMATRA	328
PK5	BORNEO	314
PK6	CELEBES ISLAND	305
PK7	NETHERLAND NEW GUINEA	290
PX	ANDORRA	50
PY	BRAZIL, Natal	112
	Rio de Janeiro	129
PZ	SURINAM, (Netherland Guiana)	121
SM	SWEDEN, Stockholm	29
SP	POLAND, Warsaw	33
ST	ANGLO-EGYPTIAN SUDAN, Khartoum	49
SU	EGYPT, Cairo	41
SV	GREECE, Athens	41
SV5	DODECANESE ISLANDS	40
TA	TURKEY, Ankara	35
TF	ICELAND, Reykjavik	35
TG	GUATEMALA, Guatemala City	161
TI	COSTA RICA	150
TR	LIBYA, Tripoli	51
TT	TANNU TUVA, Kyzyl Khoto	351
U	SOVIET UNION, Moscow	23
UB5	UKRAINE	30
UC5	WHITE RUSSIA	25
UD6	AZERBAIJAN	23
UF6	GEORGIA	28
UG6	ARMENIA	26
UH8	TURKOMAN	19
UI8	UZBEK	12
UJ8	TADZHIK	7
UL7	KAZAKH	10
UM8	KIRGHIZ	5
UN1	KARELO-FINNISH REPUBLIC	20
UO5	MOLDAVIA	32
UP	LITHUANIA	30
UQ	LATVIA	29
UR	ESTONIA	27
VE1	CANADA, Halifax	68
VE2	Montreal	64
VE3	Toronto	77
VE4	Winnipeg	10
VE5	Saskatoon	339
VE6	Edmonton	330
VE7	Vancouver	308
VE8	Fort Nelson	333
VK1	HEARD ISLAND	163
VK2	AUSTRALIA, Sydney	252

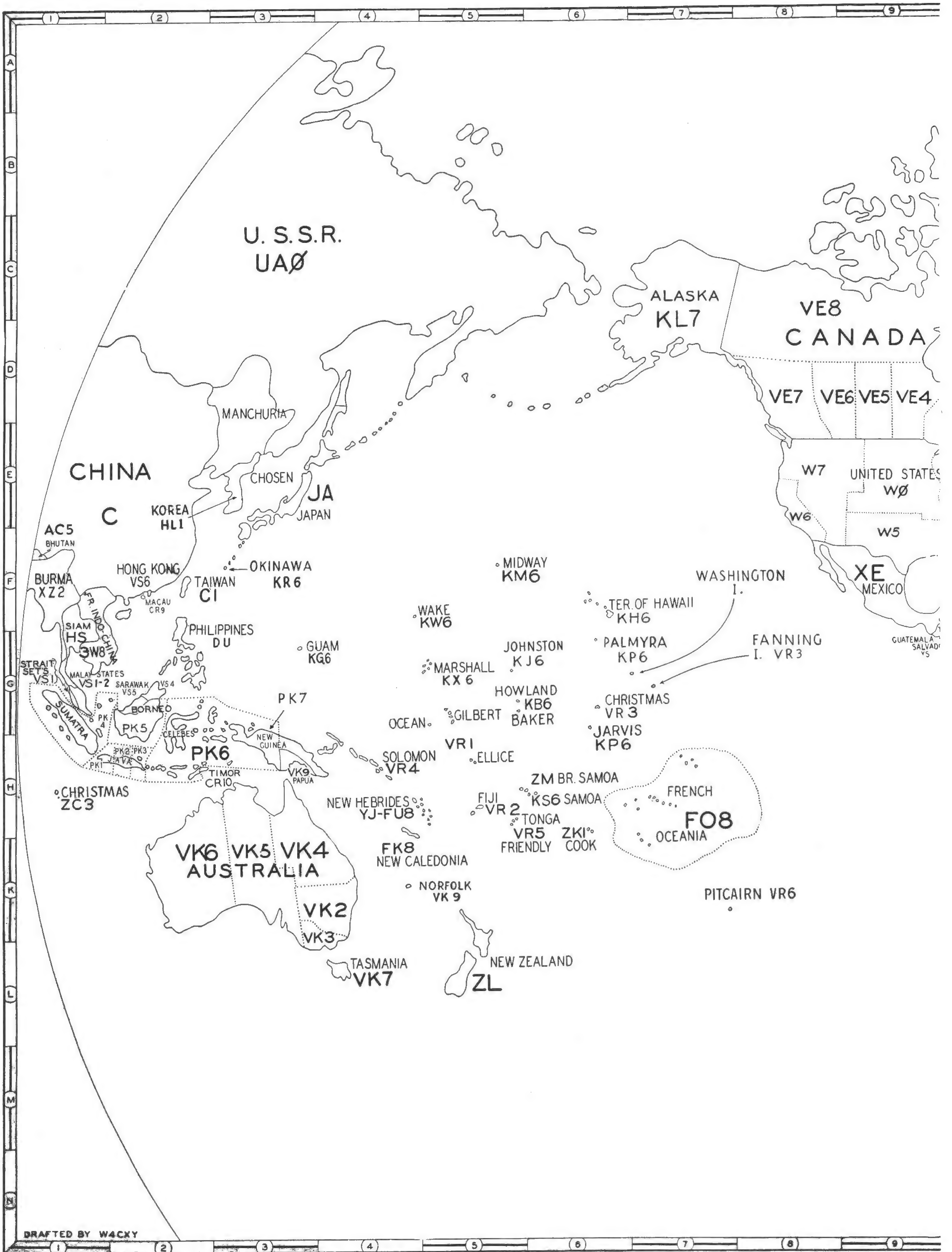
Prefix	Country	Bearing
VK3	Melbourne	250
VK4	Brisbane	257
VK5	Darwin	287
VK6	Perth	274
VK7	TASMANIA, Hobart	243
VK9	NORFOLK ISLAND	248
	PAPUA TERRITORY, Port Moresby	277
VO	NEWFOUNDLAND, St. John's	59
VP1	BRITISH HONDURAS	152
VP2	LEEWARD and WINDWARD ISLANDS	112
VP3	BRITISH GUIANA, Georgetown	120
VP4	TRINIDAD	120
VP5	JAMAICA	127
VP6	BARBADOS ISLANDS	112
VP7	BAHAMAS ISLANDS	121
VP8	FALKLAND ISLANDS	156
	South Georgia Island	147
	South Orkney Islands	155
VP9	BERMUDA	94
VQ1	ZANZIBAR	57
VQ2	NORTHERN RHODESIA, Lusaka	77
VQ3	TANGANYIKA, Dar-Es-Salaam	59
VQ4	KENYA, Nairobi	56
VQ5	UGANDA	59
VQ6	BRITISH SOMALILAND	40
VQ8	CHAGOS ISLANDS	14
	Mauritius	51
VQ9	SEYCHELLES	38
VR1	GILBERT ISLANDS	267
VR2	FIJI ISLANDS	251
VR3	FANNING ISLAND	252
VR4	SOLOMON ISLANDS	210
VR5	TONGA ISLANDS	244
VR6	PITCAIRN ISLAND	208
VS	MALAYA, Singapore	326
VS4	BRITISH NORTH BORNEO	314
VS5	BRUNEI and SARAWAK	316
VS6	HONG KONG	326
VS7	CEYLON	1
VS9	ADEN, Aden	39
VU	INDIA, Bombay	8
	Calcutta	351
	Delhi	3
VU4	LACCADIVE ISLANDS	9
VU5	ANDAMAN ISLANDS	345
XE	MEXICO, Mexico City	178
XZ	BURMA, Rangoon	342
YA	AFGHANISTAN, Kandahar	13
YI	IRAQ, Baghdad	30
YJ	NEW HEBRIDES	260
YK	SYRIA	34
YN	NICARAGUA	150
YO	ROMANIA, Bucharest	36
YS	SALVADOR, San Salvador	156
YT	YUGOSLAVIA, Belgrade	39
YV	VENEZUELA, Caracas	126
ZA	ALBANIA, Tirana	41
ZB1	MALTA	48
ZB2	GIBRALTAR	58
ZC1	TRANSJORDAN	36
ZC2	COGOS ISLANDS	327
ZC3	CHRISTMAS ISLAND	315
ZC4	CYPRUS	37
ZD1	SIERRA LEONE, Freetown	81
ZD2	NIGERIA, Lagos	76
ZD3	GAMBIA	84
ZD4	GOLD COAST, Accra	80
ZD6	NYASALAND	69
ZD7	ST. HELENA	100
ZD8	ASENCION ISLAND	99
ZD9	TRISTAN da CUNHA	122
ZE	SOUTHERN RHODESIA, Salisbury	77
ZK1	COOK ISLANDS	234
ZK2	NIUE	242
ZL1	NEW ZEALAND, Auckland	238
ZL2	Wellington	234
ZL3	Christchurch	233
ZL4	Dunedin	231
ZM6	SAMOA (British)	248
ZP	PARAGUAY, Asuncion	141
ZS	UNION OF SOUTH AFRICA, Capetown	104
	Durban	91
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ZS3	SOUTH WEST AFRICA, Windhoek	92
ZS7	SWAZILAND	87
ZS8	BASUTOLAND	93
ZS9	BECHUANALAND	87

Great Circle Chart of the World Centered on THE UNITED STATES



To find the great circle bearing to any point in the world from the center of the United States, draw a straight line from the star and note the reading in degrees on the outer scale. The bar scale at the bottom of the chart can be used to determine the distance in statute miles. For bearings to the nearest degree reference is invited to the table on the opposite Page. The outlines of this chart were prepared by the U.S. Coast and Geodetic Survey.

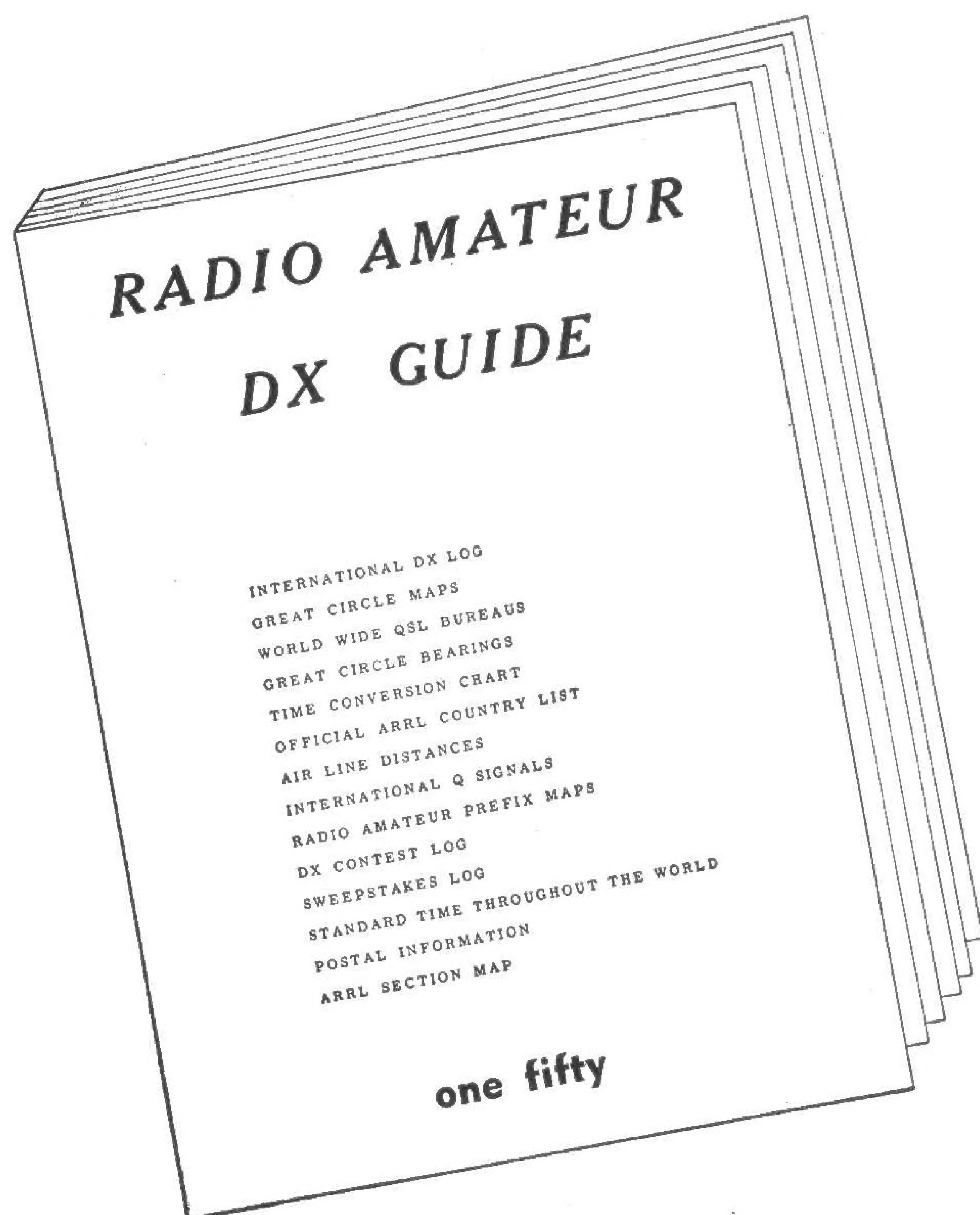
WORLD MAP SHOWING



DRAFTED BY W4CKY

**MAP OF
THE WORLD
SHOWING
RADIO AMATEUR PREFIXES**

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fills a definite need for a handy book to have around the ham shack for reference purposes. Printed on a good grade of paper each page is perforated so that it can be easily removed for mounting under glass or on the wall.

JUST LOOK AT THIS TABLE OF CONTENTS

INTERNATIONAL DX LOG

This log lists all countries having licensed radio amateurs by prefix. Ample space is provided to make a permanent record of all DX stations worked; showing the date, call letters, frequency and whether a QSL card has been sent or received. All countries that qualify for DXCC are listed.

WORLD MAP SHOWING RADIO AMATEUR PREFIXES

This is an outline map of the world with all radio amateur prefixes. Total size 15 x 10 inches. Excellent for mounting.

GREAT CIRCLE MAPS

Three great circle maps are included centered on San Francisco, California; the center of the United States and New York, N. Y.

GREAT CIRCLE OUTLINE CHART OF THE UNITED STATES

Published by the U. S. Coast and Geodetic Survey, it is possible to determine the great circle bearing between any two points in the United States, with the proper use of this map.

PREFIX MAP OF SOUTH AMERICA

An outline map of South America showing the number or letter designating all sections and countries. Very handy for determining just what part of each country is heard or worked.

ARRL SECTION MAP

One copy of this map is included which shows all of the ARRL sections in the United States. These maps can be used for checking off the different sections worked during ARRL contests.

GREAT CIRCLE BEARING TABLES

Each of these bearing tables are printed on a separate sheet which is perforated for easy removal of the one nearest to your location. Over 250 bearings are shown on each table and where cities are listed the bearing to the nearest degree is given. Bearings are included on the following points: Atlanta, Ga.; Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Center of the USA; Denver, Colo.; Detroit, Mich.; Houston, Tex.; Jacksonville, Fla.; Kansas City, Mo.; Los Angeles, Cal.; Louisville, Ky.; Miami, Fla.; Minneapolis, Minn.; New Orleans, La.; San Francisco, Cal.; Seattle, Wash.

GREAT CIRCLE BEARINGS TO WORLD WIDE METROPOLITAN AREAS

Exact bearings are shown in this table to the nearest degree, from 39 cities in the USA to the same number of metropolitan areas throughout the world.

GREAT CIRCLE BEARINGS IN THE UNITED STATES

This table includes bearings between 39 large cities in the USA. Accurate to the nearest degree it is a valuable aid for VHF work as well as handling traffic through QRM.

TIME CONVERSION TABLE

With this time conversion table you can determine the time in any time zone in the world. Also provision is made to know whether it is today or tomorrow at the place heard or worked.

TIME THROUGHOUT THE WORLD

This page includes a list of time zones of countries the world over and an explanation of the International Time Zone System. Compiled by the National Bureau of Standards.

AIR LINE DISTANCES IN THE UNITED STATES

Arranged in alphabetical order, this page shows the air line distance between 39 cities in the United States. Compiled from information prepared by the U. S. Coast and Geodetic Survey.

INTERNATIONAL Q SIGNALS

All of the "Q" signals have been arranged on one page for instant reference.

POSTAL INFORMATION

This page shows the postal rates for QSL cards, first class and air mail letters to all foreign countries. Also the number of international reply coupons for sufficient postage for a return air mail letter is shown for most countries.

WORLD WIDE QSL BUREAUS

A complete list of all of the International QSL Bureaus, right up to date, are shown, compiled from the records of the CALLBOOK.

ARRL COUNTRIES LIST

Official list of ARRL DX contest and postwar DXCC. Courtesy ARRL.

DX CONTEST AND FIELD DAY LOG

This section contains a log that can be used either for a DX contest or the annual ARRL field day.

COMPASS ROSE

How often have you wanted a compass for that rotary beam indicator? Two compass roses are provided. One with white background and no printing on the reverse side of the sheet. The other has a black background. Both are graduated for 360 degrees.

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CHARM BRACELET

BROTHER

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MEN'S LAPEL PIN

FRIENDSHIP

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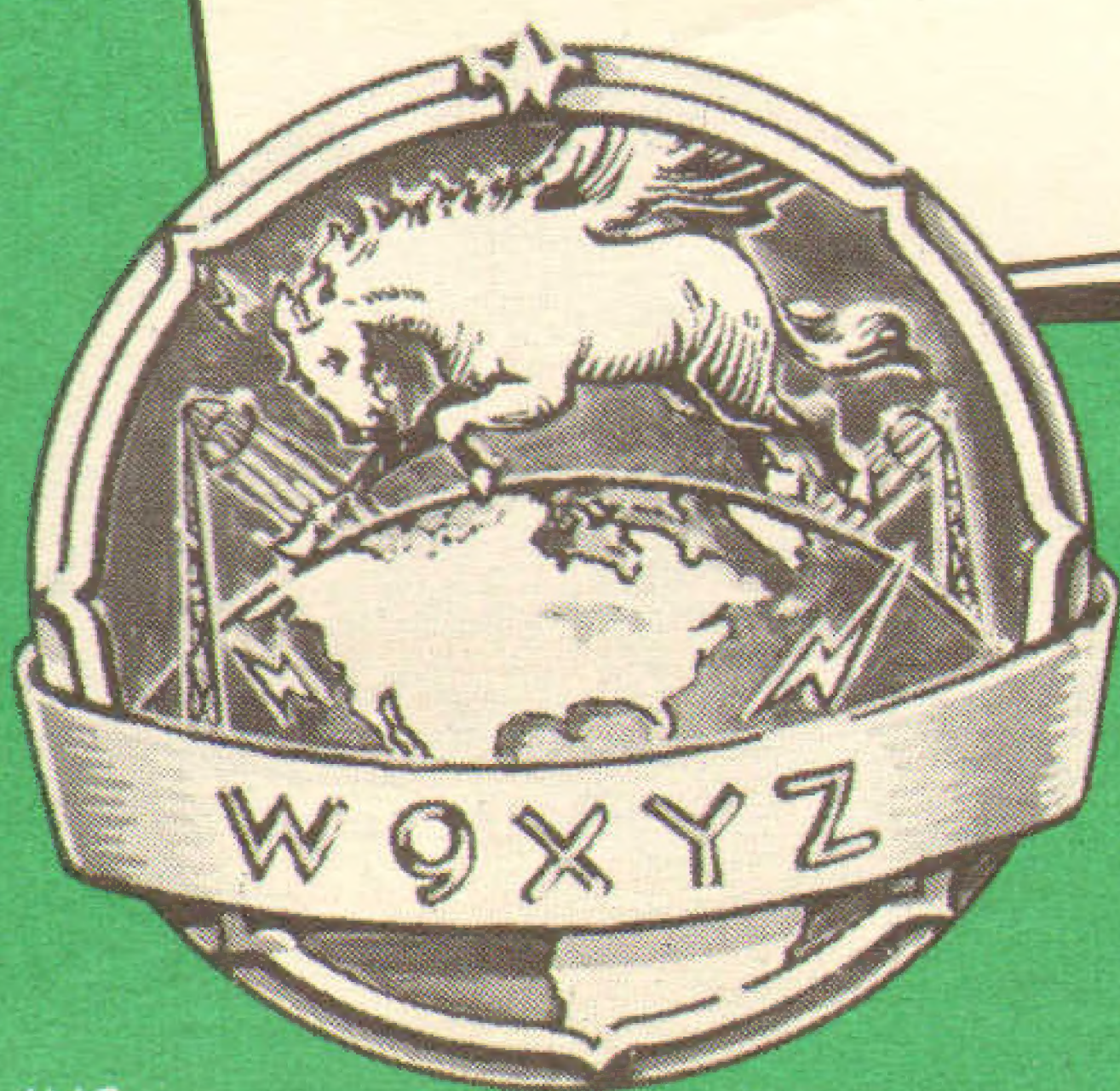
SEE COMPLETE SELECTION ON REVERSE SIDE ►



WIFE



SON



LADIES LAPEL PIN

FATHER

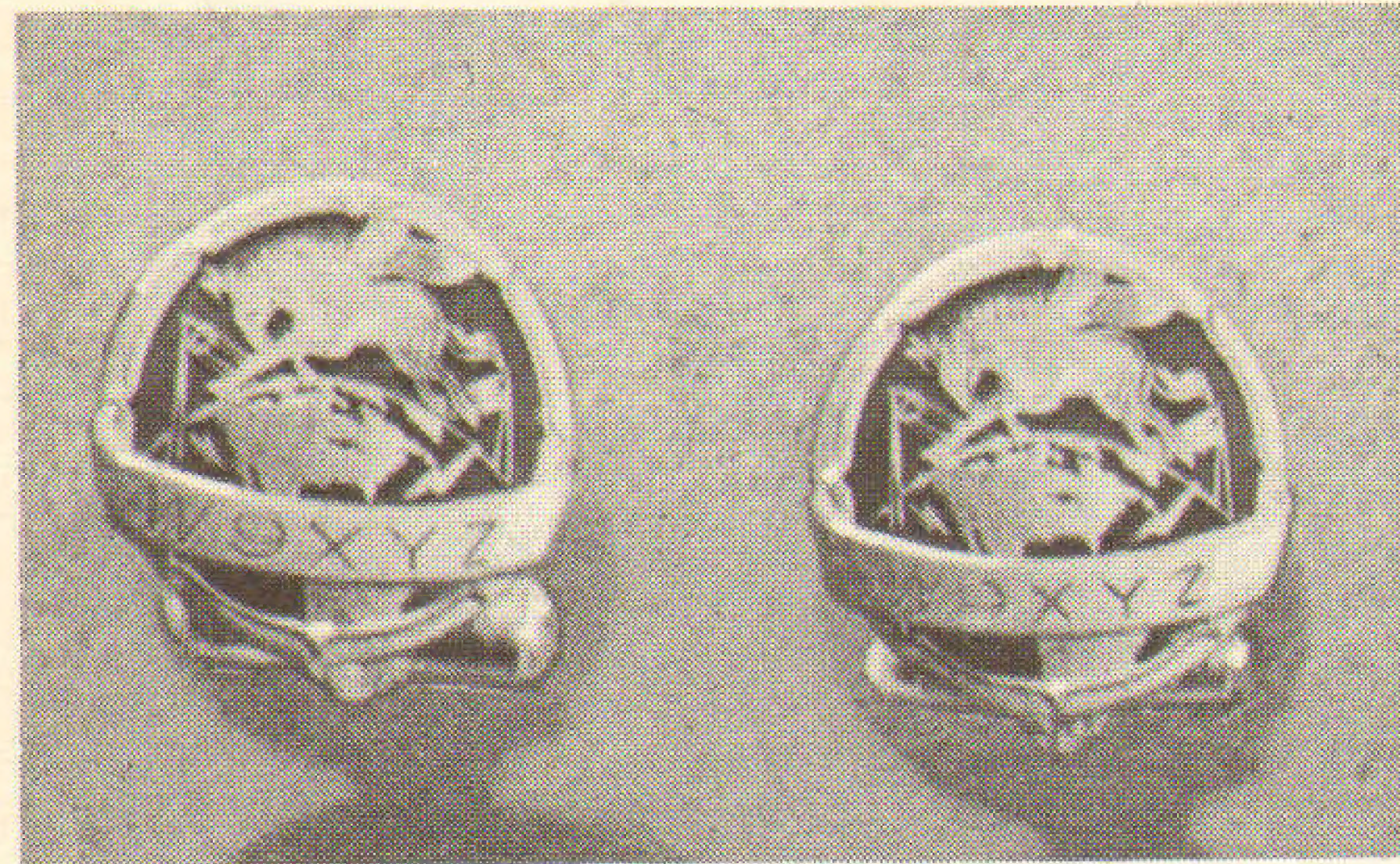


TIE BAR



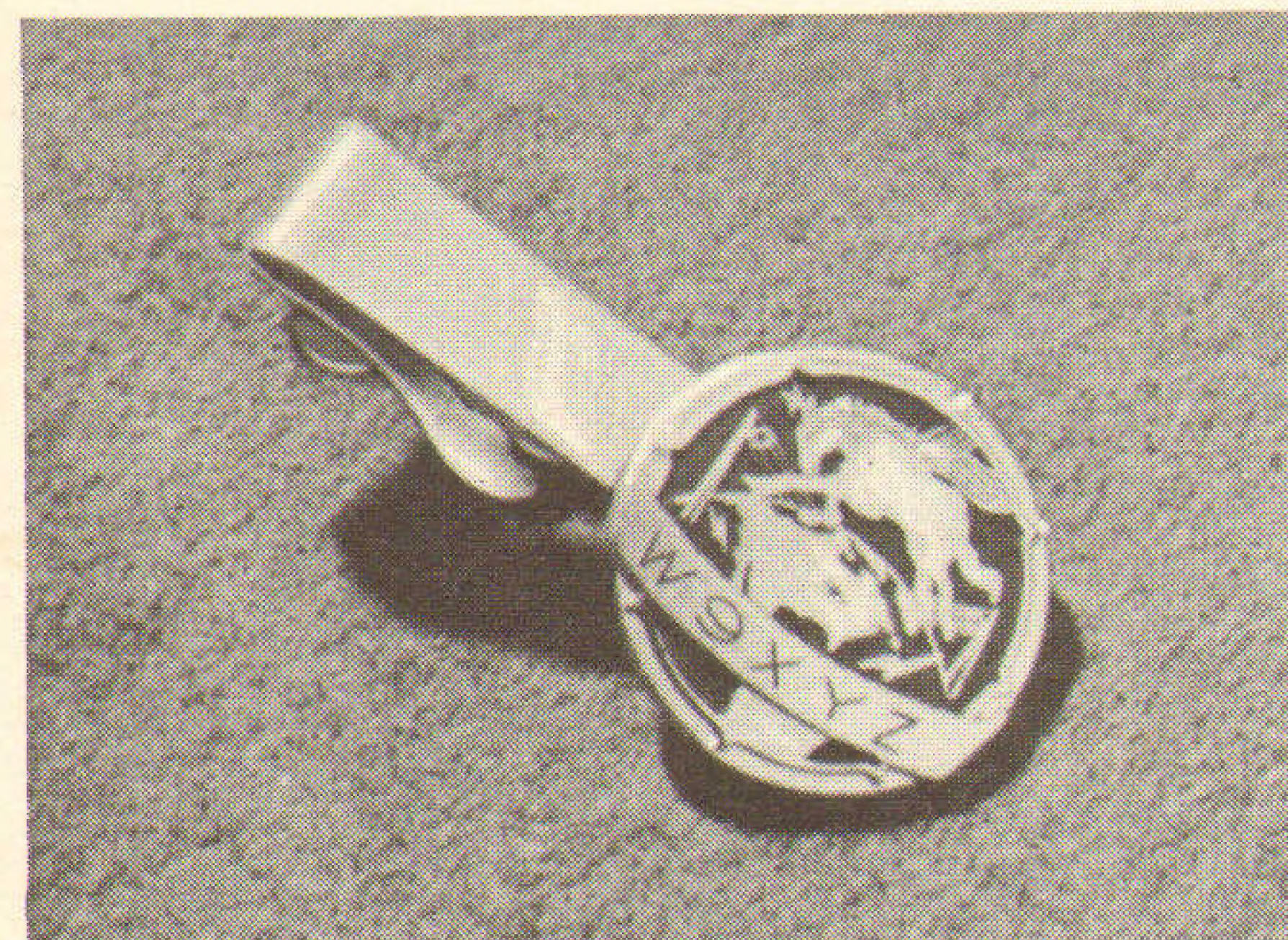
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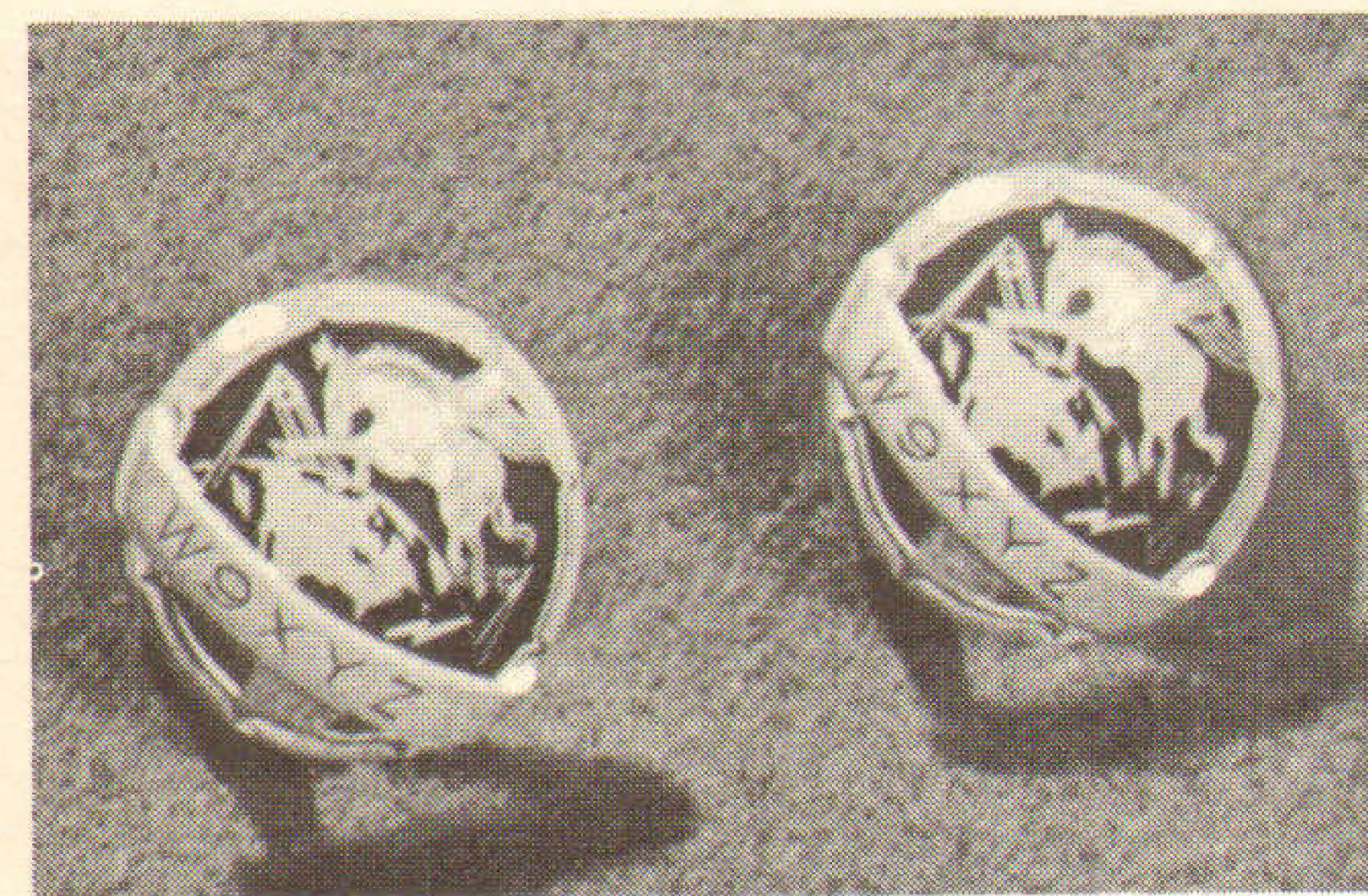
CUFF LINKS:

- Item 2-G, 20-K gold plated\$10.00*
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TIE BAR:

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- Item 4-R, Screw type rhodium plated\$10.00*



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